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Address

THERAPEUTIC PROGRESS *

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"The knowledge of simple druggs is a study so agreeable and so exalted in its own nature that it has been the pursuit of the finest genius's in all ages." Thus Monsieur Pomet, chief druggist to Louis XIV, opens the preface of his book, "The History of Druggs," which was published in 1694, and "done into English from the originals" in 1725. As he further assures us that even princes have deigned to undertake such an agreeable study, I think that we may profitably spend a short time in considering some phases of the history of materia medica and therapeutics, and especially the changes they underwent during the nineteenth century, together with the factors which have tended to bring about the present conditions. The term "materia medica" is very ancient, having been introduced by Pedarius Dioscorides (40-90 A. D.), the most important writer on pharmacology of antiquity.

SURVEY OF THE HISTORY OF THERAPEUTICS AND MATERIA MEDICA

It is manifestly impossible in the short time at my disposal to attempt anything like a comprehensive history of our materia medica; and even were it done it would hardly be profitable, as a list of the remedies employed by our ancestors would comprise substances not only peculiar and even amusing in the light of our present knowledge, but would include many disgusting remedies as well. Their use can be understood and appreciated only when studied in connection with the various theories of disease then prevailing; theories which were formed under the influence of this speculative school of medicine or that and founded not on observation but on ignorance and superstition.

In considering the period we must clearly keep in mind the extent to which medical practice was handicapped and the difficulties under which the early practitioner worked.

Let us imagine ourselves, if we can, to be suddenly deprived of the sciences which the nineteenth century gave us, such as pathology and bacteriology, and such diagnostic aids as the modern microscope, clinical thermometer and the stethoscope, together with all the knowledge of disease which has been gained by their aid. Imagine all these gone and ourselves practicing in the last decade of the eighteenth century; who among us would dare to say that we would do better than our forefathers did?

No, the physician of 1908 has no reason to be ashamed of the history of his profession. His forefathers worked with the same sincerity and with the same lofty aim in view that he does to-day, but they were hampered by a lack of that scientific knowledge which the man of to-day enjoys and which has been gained, not through his own efforts, but through the toil and thought of the men of old.

What, then, was the condition of materia medica and therapeutics at the end of the eighteenth century? This may be most clearly described by the word "overmedication." An immense variety of drugs were used and they were given in such large doses as not only to produce their physiologic effects, but, in many cases, toxic symptoms as well. The drugs which were in greatest favor, perhaps, were those which aided elimination, such as cathartics, emetics and diaphoretics. Still another method of treatment which had the same object in view was that of venesection. This was carried out to an enormous degree and in all sorts of pathologic conditions.

To illustrate the use of venesection, let me quote from a standard text-book of medicine in use at that time. Benjamin Rush, professor of institutes and practice of medicine and of clinical practice in the University of Pennsylvania, in 1809, published a volume of the works of Thomas Sydenham, the great English physician who lived in the seventeenth century. Dr. Rush revised this work so as to make it suitable for use in the medical schools of his own day. In discussing the treatment of pleurisy, Sydenham advised bleeding, ten ounces being taken on four successive days, adding that in grown persons he seldom found that it is necessary to take less than forty ounces of blood. Rush, in commenting, says that in the United States it is often necessary to take more than double the amount that Sydenham mentions. Other examples might be quoted from Sydenham's chapter on the treatment of quinsy and also of pneumonia.

This was, indeed, the age of heroic medicine. Small wonder that thinking persons were led to question whether the treatment did not kill more often than the disease, and that Addison wrote: "We may lay it down as an axiom that when a nation abounds in physicians it grows thin in people." And again he says: "I must confess for the good of my native country, I could wish there might be a suspension of physics for some years that our kingdom which has been so much exhausted by the wars might have leave to recruit itself."

What a change had taken place during those centuries which had transpired since the time that Pluto complained to Jupiter that Æsculapius was depopulating the world of shades by his wonderful success in the healing art!

When, however, we examine the materia medica of that period we are at once struck by the comparatively

* Address delivered at the opening session of the Department of Medicine and Surgery, Sept. 29, 1908.

small number of present-day drugs which were employed. If we attempt to sift out of the vast array of remedies only those which we to-day consider of importance, the number is not great. Most of the heavy metals are present, being represented by mercury, iron, arsenic, antimony and others and dating back to the dawn of medicine. From about the same period, and probably derived from Egyptian or Chinese medicine, we have opium and squills. Ipecac and cinchona are much more recent, dating from the seventeenth century, while digitalis, nux vomica and aconite appeared in the eighteenth. Belladonna was known mainly as a poison, being little used in medicine. Alcohol, of course, must not be forgotten, as in an impure form it was used from the earliest times, having, according to Milton, been given by the gods, as it was

> Bacchus that first from out the purple grape
> Crushed the sweet poison of misused wine.[1]

In 1400 a Benedictine monk obtained the alcohol almost free from water and it was sold by the apothecaries to prolong life and restore youth, under the name of "aqua vitæ." As Arnold of Villanova (1235 to 1312) said: "Mankind has grown old and has become feeble: therefore, God has given him this water of life that he may grow young again."

This short list of about a dozen drugs contains practically all of those which we to-day would consider in the first rank, but although our forefathers possessed so few of our important remedies (mixed in with the hundreds of others which we have discarded), they made the best of the few they had; cinchona was used by the pound; opium to seminarcosis; and calomel earned for itself the title "the Samson of the remedies," because, as some one pointed out, it had slain its thousands.

Largely as a result of this abuse of drugs there set in immediately after this period a reaction against this hypermedication and therapeutic interference. Among the many influences which aided in the purification of the therapeutic art may be mentioned, first of all, the universal growth in knowledge as shown by the great strides which were made along general scientific lines. But there are three factors to which I want especially to call your attention. First, in point of time came the introduction of homeopathy. There can be no doubt but that this school performed a great service to medicine in clearly demonstrating of what recuperative powers Nature is capable if she is not meddled with, and its influence went a long way toward emancipating medicine from the state of polypharmacy into which it had fallen. The second important factor was the development of pathologic histology, in that it gave us for the first time a definite idea of the nature of disease and of the morbid changes which the body undergoes. It may even be seriously questioned whether under its influence the pendulum did not swing too far in the other direction, as it tended to produce a loss of confidence in the healing power of medicines.

This nihilistic state of mind was still further accentuated under the influence of Skoda and his followers, who made diagnosis the chief aim in medicine. The whole object of the physician was diverted from therapeusis to diagnosis, so that the former became almost a subject of derision. Nevertheless, although pathology and the science of physical diagnosis induced a high degree of therapeutic nihilism, they performed a great service to therapeutics in ridding it of overmedication, in giving it a clearer idea of the changes produced by disease and, finally, in giving it a scientific basis on which to build and imparting scientific methods.

Any sketch of the therapeutics of the nineteenth century would lose one of its brightest chapters were not the triumphs of bacteriology mentioned. Its greatest gift, that of diphtheria antitoxin, by which the death rate due to that disease was lowered from 50 per cent. to less than 10 per cent., bids fair to be equaled, if not surpassed, by the new cerebrospinal fever serum, by which, according to the best reports, the mortality in that disease has been lowered from 85 per cent. to 25 per cent.

But during this time of therapeutic purification, what had become of the materia medica? The progress here was no less marked than in therapeutics. One of the most important advances was the isolation of the active principles from the crude drug—the first being that of morphin, which was isolated by Sertürner of Hanover in 1816. The separation of other active principles soon followed, the great advantage they possessed being that of accuracy of dosage and rapidity of action when administered by the hypodermic syringe, which latter method, however, was first recommended by A. Wood, of Edinburgh, in 1855.

Iodin, potassium iodid and the bromids were introduced in the first half of the century, but more important than all is the introduction of the anesthetics—ether, by Jackson and Morton in 1846, and chloroform, by Sir James Simpson in 1847. These anesthetics, together with the method of antisepsis by the use of carbolic acid, which was introduced by Lister in 1867, have completely revolutionized surgery and made possible the great advances which that branch of medicine has undergone.

Yet, even with the addition of the iodids and bromids, Sir Lauder Burton has pointed out that as late as 1866 the practice of medicine was sadly hampered by the lack of reliable drugs. He says:

> We had no antiseptics; medicines for the relief of pain and sleeplessness were very few, opium (combined with tartar emetic if the fever was high), and I can remember how we watched to see if the new remedy, potassium bromid, would have the desired effect; and we had no antipyretics.

What a change in the last forty years! Where have all these new remedies come from and to whom are we indebted for them? In almost every case they have come from the laboratory, and the manner in which they have been introduced illustrates better than anything else the advance of modern medicine.

As Cushny has pointed out, with one exception every important drug which has been introduced into practice in the last forty years has come from the laboratories where its action was discovered by direct experimental work.

We owe our first modern soporific, "chloral," to Liebreich, professor of pharmacology in Berlin, who, in the course of his experiments to determine whether a substance is broken up into its constituent parts before it is oxidized, injected trichloracetic acid and chloral into frogs and rabbits. He became interested in the sleep-producing action of chloral, and after further experimental study it was introduced into therapeutics and is to-day perhaps the most reliable hypnotic in use.

Baumann, professor of physiologic chemistry at Freiburg, and Kast, professor of special pathology and therapeutics at the University of Breslau, introduced sul-

1. Comus, l. 47.

phonal as a hypnotic, and later Kast made a comparative study of trional and tetronal.

In 1881 Cervello, professor of pharmacology at Palermo, recommended paraldehyd as a soporific.

We had no antipyretic drugs except quinin and alcohol until 1874, when salicylic acid was discovered to possess antipyretic properties. In 1884 Filehne, who was then professor of pharmacology at Erlangen, introduced antipyrin, the first of our modern antipyretics. Acetanilid and acetphenetidinum appeared later. Coming to the local anesthetics, Von Anrep, in 1879, working in the pharmacologic laboratory at Würzburg, discovered that if cocain was injected subcutaneously the skin in its neighborhood became insensible to a pin prick. He recommended that it should be tried as a local anesthetic, but it was five years later that Koller, the ophthalmologist, made use of the discovery. Since then eucain and several other bodies have been introduced as substitutes for cocain. Lauder Brunton, after demonstrating the high blood pressure which occurs during the attacks on angina pectoris, introduced in 1867 as a remedy amyl nitrite, whose property of lowering pressure had been proved by the physiologist, Gamgee.

Brief mention is all that can be made of the two diuretics caffein and theobromin, which were introduced by Von Schroeder, professor of pharmacology in Heidelberg; also of hexamethylenamin (urotropin), physostigmin and pilocarpin, the latter being interesting as having been introduced in 1874 from Brazil, where it was used to increase perspiration; we owe it, therefore, to the clinicians. In 1894 Oliver and Shafer and Szymonowiez simultaneously discovered the action of extracts of the suprarenal gland, a discovery which has had a tremendous influence in stimulating research along these lines. Of special interest to us here in Michigan is acetozone, which is a product of the chemical and bacteriologic laboratories and also the drug now known as chloretone, which was first studied in the pharmacologic laboratory.

But the drug which illustrates perhaps better than any other modern pharmacologic methods is strophanthus. Dr. Kirk, who was with the Livingstones on their trip to the Zambesi, one day placed his tooth-brush in the same pocket in which he had some poisoned arrows. When using the tooth brush later he noticed a bitter taste, but imagined it was due to quinin which he had also had in his pocket. Very soon afterward the action of poison was shown by a marked lowering in the rate of the pulse. The arrows, which were brought back to England, were sent to T. R. Fraser, professor of materia medica in Edinburgh, who made an extended study of them, demonstrating that strophanthus contained a glucoside acting in the same manner on the heart as digitalis, and he introduced it into practice as a substitute for digitalis. It is very interesting to know that this poison had never been used in medicine before it was recommended by Fraser. The African natives themselves had no idea of its therapeutic value, and when efforts were made subsequently to get some of the drug the Africans thought the Europeans wanted it to poison their bullets.

Compare the manner of introduction of the drug just mentioned with that of some of the older therapeutic methods. Take, for example, the bromids, which were introduced about 1830. As they are closely related chemically to the iodids, it was supposed that they would be good in similar conditions and so they were used in syphilis, scrofula and goiter. They proved absolutely useless here, but during the time these trials were being made very large doses were given and it was noticed that they depressed the brain; it was not until about 1860 or 1865, however, that they began to be generally used either in epilepsy or as soporifics. Had they been subjected to careful examination in the laboratory, instead of mere speculative theory, before they were introduced into practice, the world would have had a good soporific drug thirty-five years earlier.

But what of the materia medica of the future? Along what lines may we expect development? It is possible that a closer scientific study of some of the older drugs which have been discarded may yield some material which will be valuable. As I have pointed out, however, synthetic chemistry has already contributed very largely and we may expect still more from the same source. We have learned from a study of allied chemical compounds the importance of the relation of chemical constitution to physiologic activity, and, further, that by altering the constitution slightly the physiologic action is also changed. By the application of this principle many important compounds have been discovered. I need only refer to one as an example: By the substitution of mandelic acid for tropic acid in the atropin molecule, we have homatropin, which possesses some great advantages over the parent substance.

A study of the fate of some of the chemical compounds in the body has yielded some brilliant results; for instance, anilin was converted into paramidophenol in the body, and this suggested that the latter might be the fever-reducing agent rather than the parent substance. A confirmation of this theory led to the introduction of compounds built up from amidophenol, and we have as a result acetanilid and acetphenetidinum.

An examination into the action of a large series of chemical substances in their relation to some pathogenic organism offers another field. Here may be mentioned the study of the arsenic compounds against the trypanosomes and also Ehrlich's study of hundreds of the color compounds against the same organisms.

As some one has pointed out, there is no reason why we should not confidently expect that some time there will be found chemical substances having the same specific action against the etiologic factors in the acute fevers that quinin possesses against the malarial organism.

A most inviting field is opened up by Starling's "hormones," the chemical substances which are formed in the body and by which the activity of associated organs is regulated. Those best known are the suprarenal extract, which has such an important relation to the sympathetic nervous system; secretin, by which the pancreas is stimulated to activity and the thyroid secretion in its effects on metabolism. There seems little doubt but that there are many other hormones existing in the body by which its various activities are regulated, and it is not at all unlikely that a further study of these will, as Starling says, "enable us to interfere at any desired phase in these functions and so acquire an absolute control over the workings of the human body."

THE COMPLEX CHARACTER OF THE PRESENT THERAPEUTIC SITUATION

These results, however, are to be attained by the most careful and patient study along the lines of physiologic and pathologic chemistry and only in that way. To illustrate the way by which scientific therapeutics is not

to be advanced, let me cite a case which came under my notice about a month ago.

A prominent physician, in meditating over the subject of Bright's disease, decided that animals which eat their placentas do not suffer from the disease—which, by the way, is an incorrect observation. He, therefore, evolved the theory that the reason the human race is afflicted with the disease is that it loses certain ferments which are contained in the placenta. The remedy was immediately clear, and now all his nephritic patients are being treated with extract of human placenta. Under its influence he expects to get the urine so dilute that it will be nothing but water containing a small amount of phosphate, and then the kidney, being freed from irritating substances, can recover. I might add that patients are not told the nature of the remedy which is administered to them, so that any psychical effect it might have is excluded.

What advance is illustrated by such therapeutics over the time when sweat, bats, spiders and the moss from executed criminals' heads were employed as remedial agents! The case illustrates exactly the point at hand by showing the entire absence of those scientific studies which, as I have just pointed out, are absolutely essential to therapeutic progress.

In regard to therapeutics, a number of factors tend to make the situation very complex. In the first place, several schools have split off from regular medicine, taking with them some little atom of truth which they have so magnified that it shuts out from their view the great ocean of truth which stretches before them.

So we see the Christian Scientists, so called, emphasizing the influence of the mind over the body (a fact which every physician takes into consideration) and not only denying the power of medicine but even the reality of disease itself.

So, too, the osteopath bows down to the god of manipulation, although every physician utilizes massage in his practice whenever it is necessary.

It can not be denied, however, that such movements as these may exert a beneficial effect on medicine by calling attention to certain therapeutic measures which might otherwise be neglected.

More recently we have seen the development of the psychotherapeutic movement. Here, as Harrington has pointed out, we are supposed to be dealing with conditions in the patient due to influences acting primarily through the senses or secondarily through the imagination. But this is a physiologic process and religion is not concerned in it at all, as physicians from the earliest time have "been fully ordained to stimulate the highest and best energy inherent in their patients." The movement, both on account of its name, "the Emmanuel movement," and also because it is supposed to be endorsed by medicine and by theology, is doubly dangerous, and unless controlled with the greatest care will bring discredit on both medicine and the church.

Into the medical fold itself have crept evils which must be rooted out if the science of therapeutics is to progress. I refer here especially to the prescribing of proprietary preparations the composition of which is unknown; but so much has been written on the subject that I shall merely touch on it. It can not possibly be overlooked, as there are many here who in less than a year will go out to engage in the practice of medicine. No physician has a right to prescribe for his patient a medicine with the composition of which he is not familiar, and yet that is being done to-day in every city and town from Maine to California. A year or so ago in some of the eastern cities over 40 per cent. of the prescriptions called for proprietary medicines. Since that time a marked improvement has taken place; in one instance recently a decrease of from 10 to 60 per cent. was shown.

All sorts of reasons have been assigned to explain why these preparations are prescribed. One we hear most commonly is that the students are not taught to write prescriptions in the medical schools. There may be some truth in the charge, but I believe that there are other reasons which are more important.

One of these is that in so many of the large city dispensaries and hospitals into which the medical graduates go for practical experience, they are never required to write out a prescription. The hospitals keep a large number of stock solutions on hand, the compositions of these mixtures with their designating numbers being frequently framed and hung on the wall of the clinic room. All the interne has to do if he wants to give his patient nux vomica and gentian is to order "Mixture 13," or if he wishes to give potassium iodid he orders "Solution 1." By such a pernicious method, devised merely to save work, a large amount of most valuable experience is lost just when it is most needed. Another important factor is pure mental laziness on the part of the physician. Which is the easier for the doctor in a case, we will say, of muscular pain of obscure origin, to think up the name of some remedy about which he studied some time ago and to write a prescription for it, or to prescribe some nostrum with a fancy name, the samples of which the detail man left him only yesterday, positively assuring him it was good for rheumatism, lumbago, gout and all other diseases flesh is heir to?

Too many physicians do not take the trouble to use the knowledge they gained in college. They took long expensive courses in medicine and spent many, no doubt happy, hours in studying the action and uses of drugs; but just as soon as they get an opportunity to make use of their knowledge they call in somebody else to help them, who, as likely as not, never saw the inside of a medical book. Such physicians would be insulted if a layman should offer to aid them in making a diagnosis, but they gladly allow him to prescribe for the case.

But we are assured that these nostrums are the product of hard study and research; that they contain drugs unknown to the ordinary physician or compounded in such a way as to enhance some mystic virtues which they possess. It is certainly true that they would have to possess supernatural powers if they did all that was claimed for them. For instance, our friend Dr. Munyon's "kidney cure" was examined by the British Medical Association and found to contain a drug which probably has never been used in nephritis by regular physicians. It consisted of 100 per cent. cane sugar. His blood purifier pills, guaranteed to expel all impurities from the blood, were likewise found to consist of 100 per cent. cane sugar. But it may be said that such remedies are used only by the layman and not by the doctor. Well, are such cases as those just mentioned much worse than the tasteless quinin which physicians used with such success and which was found to be nothing but powdered gypsum?

A preparation of nuclein examined a short time ago was advertised by the maker to contain the very "essence of life." It was endorsed by physicians, one of whom in his enthusiasm wrote: "It makes the machine go." On examination the solution was found to contain

1/1300 gr. of nuclein to the dose, or almost as much as a person would get from a piece of liver the size of a grain of wheat.

Numerous other illustrations might be given as demonstrating the great skill which has been employed in the manufacture of preparations such as, for instance, some of the palatable cod-liver oils into which, in their efforts to make the mixtures palatable, the manufacturers forgot to put the oil.

But I think it may be questioned whether the fact that these preparations are advertised is not largely responsible for their use. Lincoln's old adage, "You can fool part of the people all the time," is still true to-day. Glancing over the pages of our so-called reputable medical journals, we still find the names of many preparations that are far from ethical, to put it mildly. Why are these there? Simply because the physicians use them. The day the manufacturers of these nostrums find out that it does not pay to advertise to physicians, that day their advertisements will disappear from the advertising pages of our journals. The remedy lies within the profession.

While this state of affairs exists at home, how can the medical profession consistently engage in a crusade against the medical advertisements which disgrace our daily papers and forms one of the foulest blots on modern journalism? I sometimes wonder how long the American people are going to sit quietly by and allow this condition of the daily press to continue. If the suggestion is made to exhibit a nude statue or picture —perhaps a copy of some famous classic—a vigorous protest will go up from a large percentage of the population for fear of the effect the exhibition may have on the morals of the young; yet year after year they will suffer their homes to be polluted and will put into the hands of their children these papers containing advertisements referring to the vilest and most loathsome diseases that the human race suffers from. Verily, we strain at a gnat and swallow a camel. But this is only parenthetical and concerns physicians as citizens, while I wish especially to point out their relation to medical progress.

Another factor which I am going to mention briefly as offering an obstacle to the advance of therapeutics consists in the prescribing of the ready-made mixtures which so many of the manufacturing pharmacists put out. These are usually put up in tablet form for the doctor's convenience. I can point out better what I mean by giving a few illustrations copied from a 1908 catalogue of one of the "scientific" pharmaceutical houses:

Cough tablet. — Sanguinarin nitrate, morphin sulphate, atropin sulphate, antimony and potassium tartrate, tincture of aconite and pine tar.

Diarrhea tablet.—Opium, aromatic powder, camphor, bismuth subnitrate, sodium bicarbonate, powdered kino and mercury with chalk.

Neuralgic tablet. — Hyoscyamus, conium fruit, ignatia, opium, aconite, cannabis indica, stramonium seed and belladonna leaves.

These are but samples of the variety offered and put up in lots of 100, 500 or 1,000 and guaranteed to save all brain fag. If the tablet on hand does not fit the patient, that's the patient's fault and he must be made to fit the tablet. Truly the golden text of too many of the twentieth century physicians is: "Of making new remedies there is no end and much study is a weariness of the soul."

How can therapeutics progress in the face of such polypharmacy? The shotgun prescription from which the nineteenth century rid us has returned, having merely changed its coat to one of chocolate or gelatin. Can we wonder that the layman prefers to save his doctor's fee and go direct to the drug store and buy Brown & Co.'s headache tablets or Jones & Co.'s diarrhea mixture No. 23?

Along the same line it may be said that the physician has demanded the pharmaceutically impossible and the pharmacist has supplied it (?). I need only refer to the tablets of bismuth, chalk and carbolic acid which were examined at the laboratory of the American Medical Association a short time ago and found to contain only from 12 to 70 per cent. of the carbolic acid they were supposed to contain, simply because the substance had disappeared on account of being volatile. Anything like exact observations on the action of drugs is impossible under such conditions. But we are assured that therapeutics is an art and not a science. This may be true, but the art will not suffer by a careful admixture of science.

Also in their anxiety to instruct the physician and make things easier for him, the manufacturing houses have published books on materia medica in which we find the diseases all nicely arranged in alphabetical order, and under each disease a list of all the drugs that have been suggested for it. These books, from the very nature of things, can not be expected to represent the best views of the day, as their use would naturally tend to an exaggerated idea of the importance of drugs in present-day therapeutics. Moreover, since their publication is not entirely due to altruistic motives, any special formula possessed by the firm is likely to receive at least its due share of attention. Also the labels on their bottles of medicine are made the vehicle by which they promulgate information which is more or less accurate as to the action and uses of the contained drug. For instance, Sharp & Dohme of Baltimore tell us that their fluidextract of digitalis "lengthens the systole or period of rest of the heart." Seeing that digitalis does not lengthen the systole nor is the systole the period of rest, the value of such information may be questioned.

So, too, the Merrill Chemical Co., in their labels, say that among the indications for their digitalis are "distended jugular veins; continuous, difficult or labored breathing; and irritative fever," and we may suppose perhaps that difficult respiration, from whatever cause, is to be treated with digitalis, and also may be led to question what "irritative fever" is. I have never met anyone who knew nor do the leading text-books define it.

It would seem that the pharmacists, in giving such information, must be meeting a need for something or other that the physician feels he lacks, or he would not allow himself to be insulted by the presentation to him of such incorrect and false statements.

The bits of pseudoinformation that I have mentioned simply show how absolutely ridiculous it is for physicians to go to the pharmacist for his instruction instead of to the proper authority, namely, some good work on materia medica. As it is at present too many physicians ask for bread and are contented when they receive a stone.

Another foe to progress of somewhat similar characteristics is the book which is said to contain 2,000 prescriptions, more or less, which have been employed

by the most famous therapeutists. As a matter of fact, these books retard scientific prescribing by keeping alive a lot of shotgun prescriptions which the therapeutic leaders of to-day would never think of employing. The science of therapeutics would take a long step forward if all such props should be cast into the eternal fires of oblivion.

But the outlook is not entirely dark. The very fact that we notice such methods shows that we know better. Manufacturing houses are finding out that the medical profession is beginning to do its own thinking on therapeutic problems, that absurd claims which manufacturers were once able to make for their preparations are no longer accepted, and that the old time-worn proverb, "Honesty is the best policy," is a maxim not altogether out of date.

On the part of the physicians it may be said that there is a large and ever-increasing number who, knowing the action of drugs, prescribe them scientifically, that is, simply and with a definite object in view and in sufficient doses to produce the physiologic effects characteristic of each.

It would be of the greatest aid to therapeutics if more physicians would not only keep careful clinical records of the effects of the drugs but would also publish from time to time critical comments on them. By work of this sort the practitioner would contribute greatly to our knowledge of drug action, and it is only by such mutual cooperation of the man at the bedside with the man in the laboratory that therapeutics will make the progress that it should.

THE ESSENTIAL CHARACTERISTICS OF THE TRUE PHYSICIAN

And now, to you who to-day come for the first time seeking to be followers of Æsculapius and true disciples of the healing art, in the name and on behalf of the faculty it is my privilege to bid you welcome. You have chosen a noble profession and one which before all others will give you an opportunity to serve your fellow men.

Medicine never offered a more inviting field for work than it does to-day; and, on the other hand, the demand for the highest type of manhood was never greater. For other types medicine has no place.

If you would know the kind of men that medicine demands, then listen to this quotation from the Vedas, which describes what the ancient Hindu required of the prospective student of medicine: "He should be of a mild disposition—noble by nature—not mean in acts—possessed of intelligence — free from pride — endowed with a large understanding — with a power of memory and judgment — having a liberal mind — devoted to truth—disposed to solitude, free from haughtiness—of a thoughtful disposition—not prone to wrath—endowed with purity of behavior and compassion for all — devotedly attached to the study of medicine — free from cupidity—without sloth—seeking the good of all creatures."

Such is, indeed, a high standard, but surely medicine of 1908 can not accept lower ideals than did the Hindu thousands of years ago. No standard can be too high, for, as Cicero said: "There is nothing in which men so approach the gods as in giving health to other men."

Health and Education.—C. G. Kerley states that as a general proposition there should be no choice between health and education; only that education is effective which is founded on and which secures good health.—*Archives of Pediatrics.*

Original Articles

COMBATING TROPICAL DISEASES IN THE PHILIPPINES BY SCIENTIFIC METHODS

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TROPICAL DYSENTERY

At the time of the American occupation of the Philippine Islands tropical dysentery was the most serious and common disease which attacked both Americans and Europeans in Manila and the vicinity. Hence it was this affection which first attracted the attention of the medical scientists who came here at this period to study the prevailing diseases of the country. Some idea of the importance of this malady may be derived from a consideration of the fact that during the year 1900 in the United States Army here there occurred four times as many deaths from dysentery as from any other single disease. Little knowledge of the cause and nature, and even of the intelligent treatment, of this affection could be obtained from the physicians resident at that time in the Philippines, since no accurate study had previously been made of it in these islands. It was, therefore, important that such an investigation as would result in the satisfactory control and prevention of the disease should be undertaken as speedily as possible.

An extensive research on this subject, carried on in the laboratories which had been established in Manila by the American government, finally revealed the fact that the so-called tropical dysentery of the Philippine Islands really included three distinct diseases and that the most satisfactory forms of treatment were widely different for these various affections; thus one form (amebic dysentery) in Manila was found to be due to a species of protozoa, an ameba; a second, with an acute onset (bacillary dysentery), to a species of bacteria known as *Bacillus dysenteriæ;* and a third (catarrhal dysentery), a less common and a less serious form of dysentery, to the action of one of several bacteria which produced a catarrhal condition of the large intestine. The first type was found to be identical with the form usually known in certain portions of Africa under the term of "tropical dysentery," while the second was apparently the same as the prevailing form of intestinal flux occurring in Japan, and the third corresponded to the forms of catarrhal dysentery encountered more or lesss throughout the world.

It was, moreover, demonstrated that these three forms of dysentery could easily be distinguished from one another by laboratory methods. Thus the amebic form could always be recognized by a microscopic examination of the dejecta and by the presence of the specific parasite, the ameba, therein; while in the bacillary form the amebas were absent from the excreta; and the blood serum of the patient, when added to the *Bacillus dysenteriæ* (the germ giving rise to this form of the disease), caused a clumping of the bacteria into groups and their ultimate destruction, a reaction not given by the blood serum of patients suffering with other forms of dysentery or with other diseases.

After these discoveries in the differentiation of the varieties of the disease its treatment was soon placed on an intelligent basis, and it was found that while the most effective treatment for the amebic form consisted in attacking the parasite by local applications (enemas)

the same therapy in the bacillary dysentery was not only not efficacious but very harmful, and that the best results in this variety of the disease were obtained by a general method of treatment and by the inoculation of antidysenteric serum. In the catarrhal type it was found that neither the local treatment nor the serum inoculations were to be recommended and that the disease generally yielded to much simpler therapy. It was further demonstrated that the amebic and bacillary dysenteries were usually acquired by drinking infected water and that the catarrhal form was, at least frequently, contracted in this way. Moreover, it was shown that the city water supply itself was practically always infected with amebas, and although it has not been definitely established that these same organisms are always capable of producing dysentery in man, nevertheless such water must be regarded as at least dangerous. So far it has been found quite impossible to destroy the amebas in the water supply by the introduction into the city reservoirs of chemical substances, such as copper sulphate, in safe amounts for drinking purposes, or to remove them by large filters, and for this reason, as well as for many others, the city water can not now, and probably never can be, recommended for drinking purposes unless it has been previously sterilized.

As a result of these discoveries both the mortality and the amount of dysentery among Americans and Europeans has become rapidly reduced during the past few years. The people have become educated to the necessity of avoiding the use of infected drinking water and of employing only boiled and distilled or imported aerated waters for drinking purposes. To-day bacillary dysentery, which formerly was epidemic here, and which frequently carried off its victims in from three to four days, is very rare in this city, and amebic dysentery is becoming less and less frequent each year among the more intelligent population. Physicians here have been taught to recognize these diseases in their very early stages, at a time when the symptoms may sometimes appear trivial, and then to institute the proper treatment. Therefore, the disease does not so often become chronic, and for this reason the amount of invaliding to the United States for dysentery has become much reduced. A decided advance in our knowledge of the amebas has been brought about by the demonstration in Manila of the ease with which they can be cultivated on solid media, and of the fact that they can be grown in the test-tube under certain conditions with almost the same facility as bacteria.

PLAGUE

In 1900 bubonic plague appeared in the city of Manila, the first case having been introduced from Hongkong. For a time it was feared that the disease might gain a firm foothold as it had, for example, in India, and, therefore, strenuous methods were adopted for its control. Practically all vessels arriving from infected ports were fumigated at once and other means taken to prevent the escape of rats from them to the land. The most rigid isolation of the patients sick with the disease was carried out. Since rats were known to suffer from infection with the plague bacillus and to scatter this organism about by means of their excreta, and, in fact, to be the most important disseminators of the disease both in this manner and by means of fleas which they carry about on their bodies, the wholesale extermination of these rodents was undertaken. Squads of rat-catchers, armed with rat traps, rat poison and every necessary implement, were assigned to the various districts of the city under the supervision of district sanitary inspectors. A bounty of 2½ cents gold was paid for each and every rat turned over to the health authorities and stations were established at convenient points throughout the city where they could be received. Each rat was tagged with the street and number of the building and lot from which it came and then dropped into a strong antiseptic solution and sent to the government laboratory, where it was subjected to a careful bacteriologic examination for plague. The premises where plague occurred, or where the rats infected with plague had been found, were subjected to a thorough disinfection and their owners compelled, under the direction of a sanitary engineer, to make necessary alterations. Cement ground floors were laid, double walls and ceilings affording refuge for rats were removed, defective plumbing was remedied, whitewash was liberally used for the destruction of fleas, and in general everything was done that could render the buildings where plague had occurred safe for human occupancy. Wherever these changes were not practicable, houses, or even districts, were frequently destroyed by fire.

The Board of Health in Manila considered, however, that by far the most effective measure in combating the epidemic of plague consisted in the immunization of the people living in the badly infected districts by means of inoculation with the prophylactic against the plague. All Chinese arriving from infected ports in China, and all those individuals living in a house where a case of plague occurred, were also inoculated with the prophylactic or with antiplague serum. To quote from the report of the director of health at this time in regard to the preventive inoculation against plague carried on in Manila: "The method has given results almost beyond expectation."

Partly for this reason and partly from the character of the disease, it seemed hopeful that a considerably greater success might be obtained against this malady by improved methods of protective inoculation; therefore particular attention was paid to the investigation of this subject in the government laboratories in Manila and a method of vaccination has been finally obtained which will probably reduce the mortality of plague among the vaccinated to under 20 per cent. usually, whereas it is well known that the usual mortality of plague is in the neighborhood of 80 per cent.

At present there is no plague in the Philippine Islands nor has a case occurred in them for over a year. It is hoped, however, that the method of vaccination against this disease will be employed in India, where the plague has raged for the past ten years in spite of all hygienic measures employed there and during which time the mortality has amounted to over 5,000,000.

CHOLERA

The first appearance of cholera in the Philippine Islands under American occupation occurred in March, 1902, and measures were at once undertaken to prevent the occurrence of an epidemic. Unfortunately, it was impossible to convince the majority of native physicians and the population in general that cholera had really invaded the islands and that a severe epidemic was imminent, notwithstanding the fact that the first cases found in the city had in the laboratory been carefully identified bacteriologically as those of cholera. For

weeks, however, the presence of cholera was denied, the Filipinos refusing to believe in its existence because the daily deaths did not reach up into the thousands as they had done in the epidemic of this disease which occurred here prior to American occupation. Therefore, as was to be expected, the rigorous measures enforced by the board of health produced bitter opposition. The minds of the common people were poisoned by tales of abuses and even of murder in the cholera hospitals. The rumor was also circulated that the cholera was due to the Americans having poisoned the wells and that the quarantine measures instituted were evidences of revenge on their part. These absurd tales gained credence and proved a very serious factor in the control of the situation, since they led to the concealment of the sick, the escape of those who had been in close contact with cholera patients, and the throwing of the dead cholera bodies into the esteros (canals) throughout the city and into the Pasig River (the waters of the latter were frequently used for drinking purposes by the natives). In fact, for the first few weeks of the epidemic there was a general disposition on the part of the population to conceal every case of cholera which occurred. As a result, in spite of all measures of control, the disease spread throughout the city. The following measures for its suppression were, however, carried on and served to keep the epidemic under control:

A cholera hospital was established and, with a few exceptions, all definite and suspected cases were speedily removed to it for treatment. All cases of the disease were isolated. The city was divided into districts and each district was inspected during night and day for the purpose of detecting and diagnosing cases of the disease. All wells throughout the city were closed and distilled water was distributed for drinking purposes. A rigorous quarantine was placed around the city, and the Mariquina River, from which the city water supply was obtained, was carefully guarded by a patrol of regular troops in order to prevent it becoming infected. Certain districts, which were thoroughly infected with the germ of cholera and which could not be disinfected properly owing to the character of the dwellings, were destroyed by fire; notable among these was the so-called Farola District. The natives were reimbursed by the government for the loss of their houses and their property.

In order to aid the board of health in most of this work, measures for the early bacteriologic examination and diagnosis of the disease by means of cultures and immune sera were undertaken. An assistant was on duty day and night at the laboratory for the purpose of performing such diagnoses. The city water supply was examined from time to time throughout the epidemic for the cholera germ. This water was never found infected with this organism. Had it been so, the cases of cholera in Manila would have reached into the thousands daily. During the epidemic the highest death rate reached in Manila was ninety-one per diem.

Since it became evident early in the epidemic from bacteriologic examination that the city water supply was not infected with cholera, investigations were undertaken in the laboratory to find out by what means the disease was being spread. Visits were made from house to house in the badly infected cholera districts and cultures were taken from various foods, fruits, linen and articles of clothing and from various samples of water found in these houses. These studies were continued throughout the year and as a result of them it was determined that one of the chief means of the dissemination of the disease in Manila was through infected uncooked foods. As a result of these studies a number of uncooked foods and fruits were forbidden for sale in the markets. Flies were also shown to have played a part in the infection of certain foods where unsterilized excreta of cholera patients were exposed in the neighborhood. Certain wells and canals in the city were found to be infected with the cholera germ, and these also played a part in the spread of the disease; but, as mentioned, the general city water supply has never yet been found to be infected with the cholera organism.

Since it was recognized that individuals who had recovered from cholera might carry about with them the germ of the disease in their intestines for several weeks after convalescence and thus serve as disseminators of the infection, an attempt was made to keep each patient at the cholera hospital until his excreta were shown to be bacteriologically free from the cholera germ. It was later found, however, that some individuals who had only very mild symptoms of cholera, and who had not been taken to the hospital, also had cholera spirilla in their dejecta and thus they were able to act in spreading the infection.

Partially on this account, since such individuals must frequently escape quarantine, and partially as a general measure in the prevention of the disease, the subject of immunization in human beings against cholera was studied in the Manila government laboratories, and after extensive investigations a method of protective inoculation against cholera was devised which is perfectly harmless and which is not objected to by the natives. This method has been given an extensive trial in some of the smaller towns of the Philippines where cholera has been epidemic, and in Manila, and in all of these places large numbers of men, women and children volunteered for inoculation.

Although cholera has on several occasions since 1902 been banished from Manila and, indeed, supposedly from the entire Philippine Islands, it has always reappeared therein and has probably become, for the present at least, endemic in the islands. While the present hygienic measures are enforced, however, there is little danger of a large epidemic. It seems not unlikely that by means of protective inoculation we have a valuable adjunct in ridding a community of this disease, and it may be that we shall here finally come to resort to this method more generally for the extermination of the malady. In certain provinces of the islands statistics already show that the number of cases of cholera which have developed in the inoculated is only one-sixth of that which has occurred among the uninoculated.

MALARIA

In regard to malaria, it has been shown that nearly 50 per cent. of the native children in certain portions of the islands suffer from a latent form of this disease; that is, while many of them may not appear very ill to the casual observer, they are carrying about with them malarial parasites in their blood and furnish a constant source for the transmission of the disease to other individuals through the medium of certain species of the anopheles mosquito. Presenting few or only very indefinite symptoms, these children frequently remain untreated for the malarial infection. It is a well-recognized fact that the greatest source of danger to the white man

in a malarial locality lies in these latent infections in the native, and particularly in the native children. Studies in the Philippines have demonstrated the importance of discovering these cases by means of a routine microscopic examination of the blood, and of the treatment of the patient and destruction of the parasites by means of quinin. Such measures play an important rôle in the suppression of malaria in certain portions of the islands.

The amount of anemia and general debility produced by malaria in the native population of the Philippines has been greatly underestimated. In some districts over 50 per cent. of the adults show either active or latent infection. Malaria is uncommon among white people in the islands, however, particularly in the large cities.

DENGUE FEVER

Studies in dengue fever have been recently made here which seem to show that this disease is perhaps conveyed by means of the bite of the mosquito *Culex fatigans*, which also transmits the parasite (a blood filaria) which gives rise to the affection known as elephantiasis. These investigations have also shown that the organism causing dengue fever is probably too small to be observed by the microscope (that is, it is ultramicroscopic), and that it is present in the circulating blood of the patient suffering with the disease.

INFECTION WITH INTESTINAL WORMS

An investigation has recently been undertaken in regard to the prevalence of animal parasites in the native population and their possible influence on the public health. In this study the dejecta of 4,106 prisoners were investigated, in all 15,000 microscopic examinations being made. It was found that 84 per cent. of these prisoners were infected with one or more animal parasites.

The most usual infection was with the common whipworm (trichuris), which was present in 59 per cent. Fifty-two per cent. were infected with hookworms (uncinaria), though very rarely were these infections severe ones. Indeed, in the Philippines this parasite does not play the important rôle that it does in Porto Rico, Egypt and several other countries in the production of a grave anemia. The great majority of those infected here show only mild infections, practically having no symptoms of disease and no visible anemia. The dejecta of 23 per cent. of the prisoners contained amebas and those of 26 per cent. round worms (ascarides). The numerous other parasites encountered were found only in a comparatively small percentage of those examined.

The question has arisen as to what rôle these infections play in regard to public health. Attention has been called to the fact that if these percentages of infection obtained from the examination of the 4,106 prisoners were applied to the total native population of the islands is would appear that no less than five million of the inhabitants of the Philippine Islands were infected with intestinal worms.

It has been argued that since the systematic treatment of the prisoners for intestinal worms was begun and vigorously carried out the death rate of the prison where these examinations were performed fell from 75 per 1,000 to 13 per 1,000 per annum. It appears, however, that this decrease in the death rate was very largely due to the gradual improvement in the general sanitary conditions in the prison, which lead to a very great reduction in the number of cases of beriberi present, many of which had been formerly unrecognized, and to the fact that the new prisoners arriving at the prison were at once surrounded by better hygienic conditions than the older prisoners had formerly been. While there is practically no evidence to show that the moderate infections with whipworms and round worms exercise a deleterious effect on the health of the individual, the infections with hookworms and with amebas must be regarded in a different light. Both of these parasites are pathogenic or may come to have decided pathologic importance in the individual infected. There can be but little doubt that the patients in a number of the cases in which there were amebas in the dejecta would sooner or later develop amebic dysentery, and it is very probable that a certain percentage of these would succumb to the infection if not treated. In this way, by the detection of these cases of amebic dysentery, and by instituting proper treatment, the mortality among the number infected would be reduced. As has been pointed out, the cases of hookworm infection were so mild that the hookworms themselves probably had but little influence on the death rate. However, in the more severe infections, both with hookworms and amebas, these parasites undoubtedly weakened the individual and rendered him more susceptible to the attack of other infectious diseases.

Since the source of all these intestinal worms is the dejecta of some individual infected, the most important factor in the extermination of this infection lies in the proper disposition of human excreta. The most satisfactory means for such disposal are now being investigated.

To obtain a working system, practical, economical and adapted to the conditions throughout the islands, is a special problem which will require considerable further study. When such a system is perfected, however, it will remove one of the most dangerous channels, not only for the dissemination of animal parasites, but for the spread of other intestinal infectious diseases of bacterial origin.

SMALLPOX

In relation to smallpox, attention must be called to the fact that since the beginning of systematic vaccinations in the islands over 3,515,000 people have been vaccinated against this disease with virus prepared in the government laboratory at Manila. A cessation of deaths from smallpox has followed in the provinces in which the people have been thoroughly vaccinated. In provinces where there were formerly 6,000 cases of the disease annually not one death has been reported from this disease for the past year. No case of loss of life on account of vaccination has occurred, nor have any limbs been sacrificed, nor has there been a case of very severe infection resulting from vaccination reported. The disease has been thoroughly kept under control by vaccination alone.

GENERAL HEALTH OF MANILA

After nearly ten years' residence in the Philippines I think that I am justified in saying that Manila to-day can certainly be regarded as a very healthy city for those who exercise proper hygienic precautions in regard to their mode of living. The death rate here for the past year among American residents has been only 5.59 and among Spaniards but 15.84 per 1,000.

MEDICAL LIBRARIES *

"CRITO, I OWE A COCK TO ÆSCULAPIUS; WILL YOU REMEMBER TO PAY THE DEBT?"—*Socrates*

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One of the serious problems which confronts the management of every library is the proper and equable apportioning of the book fund to the several departments. The problem is, of necessity, a flexible one and varies with the environment, the resources and the policy of the individual library. To-day I propose to discuss only one phase of the question, and that a narrow one.

Is it expedient to establish a medical department in a free library? By this I mean not the sporadic buying of a book on hygiene or domestic medicine, but the regular and methodical acquiring of standard works as liberally as the budget and the demand will justify.

In the larger cities or in medical centers, where doctors are many and medical societies are numerically and financially strong, experience has fully demonstrated that the needs of the profession will be better met by separate libraries. The correctness of this contention is fully shown in the experiences of Cleveland and Cincinnati, the only cities in the state which belong to this class. Both have splendid independent medical libraries, managed exclusively by medical men, and in both the departmental plan was tried and abandoned.

In the smaller cities and the larger towns where the library book fund is correspondingly small, it would be ill-advised to attempt the building up of a formal department; here the end would be better reached by purchasing medical books, like other specialties, on the request of those wishing to use them.

This narrows the inquiry to libraries of medium size, or, speaking generally, those located in cities from 35,000 to 125,000 inhabitants, which presumably have a fairly liberal income.

I know full well that there is a diversity of opinion among intelligent librarians as to the propriety of the public library providing books for special or professional readers. From our viewpoint the negative sentiment smacks too strongly of a cloistered past. Is there a librarian here to-day who does not take pride, and justly, in what his institution is doing for the special student, the technical worker and the craftsman of every kind?

There is a general agreement among progressive librarians that the modern library should not only meet, as far as possible, every reasonable demand for wholesale reading, but that it should be boldly aggressive and meet the needs of all sorts and conditions of readers.

If I correctly interpret the contention of those who would build a Chinese wall of small dimensions around the library, it practically amounts to a discrimination against the three older professions—law, medicine and theology. But the conditions are so different that these professions can not be justly measured by the same standard.

As to the clergy, we will probably all agree that there is little call for a special department. A successful ministry must seldom, if ever, depend on the access to doctrinal works, which, as a rule, find their way to the shelves in rich abundance.

To compare the doctor with the lawyer is manifestly unfair. In altruistic concept and practice the two professions are as wide apart as the poles. I hold no brief for medicine, but its marvelous achievements within the past few decades alone are without a parallel in history, and in proof I need only to cite the Promethean gifts of anesthesia, sanitation and asepsis, a trinity which has let such a flood of sunshine into the life of the world. In no other branch of human endeavor do men give so freely of their time and labor for the good of their fellowmen, and there is no other profession whose constant effort in disease prevention tends inevitably to its own destruction.

The public so confidently associates charitable deeds with the calling of the doctor that it little notes the fact that he may be carrying more than a fair share of the burden which rests on society. Without special thought one can not appreciate the money value of the work done gratuitously and continuously by the rank and file of the profession.

The money value, very conservatively estimated, of the services rendered annually to the hospitals of my home city by their respective staffs is not less than $65,000. This estimate, made by a better statistician than I am, does not include the extramural charity work of these men or of their colleagues. Nor does the experience which such service gives constitute a just recompense, for those who render the service received their appointments on account of their recognized ability and skill. It is high-class medical labor rendered by high-class medical men, and as such should have recognition. If the opportunity to acquire experience is so valuable, how does it happen that the court never orders the veriest novice in the law to defend the pauper criminal without adequate compensation in the coin of the country?

A recent discussion before a prominent library association is my justification, if any be needed, for writing this screed. The consensus of opinion was strongly adverse to the development of the medical department in the public library and the full range of objections was skillfully run. It was held that medical books were high-priced, short-lived in usefulness, unfit for general circulation, technical in character, and required special knowledge on the part of the librarian. Various speakers reiterated, with the monotony of parrots and the zeal of covenanters, the slogan, "Let the doctors do as the lawyers do, and furnish their own libraries."

Let us briefly consider this indictment against the medical department, taking the last and most specious count first. Confining the inquiry to our own state, there are in Ohio about sixty special law libraries organized under the legislative act of 1872. This statute, which has been favorably amended at various times, authorizes the commissioners of any county to contract with a library association to furnish book facilities for the judges and county officials. Under this law the commissioners of my own county, out of the general tax levy, have not only furnished and equipped elegant and commodious rooms in which to house the books, but provide heat, light and the salary of the librarian, amounting to over $2,500 per annum. The library association in addition receives certain fees accruing from state cases in the police court. The membership fees go to the book fund.

Let us look at the other side of the shield. There is not a public library in the state which has a live, grow-

*Read before the Ohio Library Association, November, 1908.

ing medical department, unless by a stretch of the imagination the effort in Dayton can be so designated; nor is there in the state an independent medical library supported wholly or in part out of the general tax fund. One medical to sixty law libraries is the record. Gladly would the doctors fare like the lawyers. We have no quarrel with our friends the lawyers, nor would we lessen the number of their libraries, but we would build at least an equal number for the doctors. This is not asked as a charity; it is demanded as a right.

A further study of the condition in Ohio shows that a few libraries, rather than anger the friends of the dead, keep under key and cobwebs—mostly cobwebs—some long-neglected bequests. Some house the books of the local medical society, and others, constituting the majority, collect only the medical flotsam and jetsam which drift to their doors, and except in the rarest instances, these are not catalogued or properly shelved. Perhaps they are not worthy of better treatment, for a miscellaneous collection of old medical books is about the deadest thing known. Total annihilation is the proper remedy.

This is a sufficient answer to the taunt so often flung in the face of the profession, that doctors do not use the medical books now in the public libraries. Can they feed on husks? Would you employ a doctor who did use such books? Physicians do use the up-to-date independent medical libraries, and the accusation that they do not use the public library collections will cease to be true if the latter are kept fresh and serviceable.

There is no limit to the money that could be usefully expended in the founding and maintaining a medical department, but it is the minimum amount, not the maximum, that concerns us now.

Roughly estimated, the initial expenditure ought not to be less than $500 to $800 and largely invested in foundation books, like encyclopedias, atlases, the larger works of reference, transactions of the leading special and national associations and bound serials which, though costly, do not need early replacement. When the collection is once installed a yearly outlay of from $200 to $400 will provide a goodly number of the really valuable new books and several of the best foreign and domestic periodicals. Private contributions may be confidently relied on. Every physician subscribes for one or more medical journals and would rather place them where they would be cared for and be accessible for reference than to store them at home—possibly in the garret.

Since the formal opening of the medical department in the Dayton library, two years ago, there have been received from donations considerably over eight hundred volumes, most of which are obsolete and worthless, some are last editions, and not a few are rare and valuable classics. The permanent accessions have been carefully culled, for in no other department of literature should gifts be so closely scrutinized. It is the glory of modern medicine that a text-book ten years old has only the historical value of the fossil. This rapid superannuation of medical books is accepted as an excuse by certain librarians for refusing to buy them, but to my mind it has just the opposite meaning. If no further discoveries or progress were possible in the science of medicine there would be little need of books or libraries. A small collection would serve, by inheritance, many generations of doctors.

It goes without saying that there are medical books whose use by the patrons of the library should be restricted, but the number is not so large as one might assume without investigation. The same rules that safeguard the proscribed books in general literature, no small number in some libraries, will amply suffice. Young people and grown-up children prompted by curiosity or pruriency should be barred from the medical alcoves, but there is no valid reason why the collection should be closed to any adult of pure motives and ordinary intelligence. Never before were laymen so deeply interested in or so conversant with medical problems, especially of sanitation and disease prevention, and never before did medical literature so strongly challenge the attention of the world's ablest thinkers.

It was a layman's reading of Osler's "Practice of Medicine" which led to the founding of the Rockefeller Institute for Medical Research, one of the great institutions of the country, which has already rendered signal service to mankind in the discovery of a curative serum for one of the most dreaded of brain diseases.

Medicine is as old as the human race, its appeal is universal and to the best instincts of humanity, and the time has come when its teachings ought not to be a sealed book to the intelligent citizen of any community.

Unquestionably the best use of medical books requires the services of a specialist; and this arrangement will rarely be practicable in libraries of the size under consideration. The ideal way of offsetting the librarian's lack of technical knowledge would be to have a progressive doctor on the board of trustees to whom matters connected with the medical department could be referred. Another method of meeting the difficulty, and one which commands favorable consideration, is to elicit the cooperation of the medical society which now exists in every county in the state. An auxiliary committee thus secured can give valuable aid, apart from technical assistance to the librarian, in securing donations, in stimulating the zeal of the profession and by acting in a general advisory capacity.

The cooperative plan has worked well in Dayton. The medical society donates annually $100 to the book fund. It appoints a committee to act with a representative of the library board, to which the general supervision of the medical department is given, subject to the approval of the trustees, which is the court of last appeal.

The output of medical literature is so immense that no library can obtain more than a fragment of the whole. But, by cooperation with neighboring libraries, and especially with the Surgeon-General's Library at Washington, the greatest collection of medical books in the world, a library may, without cost, save for transportation, greatly extend its resources and give fairly good service to its patrons.

To conclude, if I am right in my contention, the public, like Socrates, owes a cock to Æsculapius, and above other institutions the free, tax-supported library should be the Crito to see that the debt is settled: first, because the library pays in coin which will be most acceptable and most profitable to the doctor, for as Osler puts it, "to study the phenomena of disease without books is to sail an uncharted sea"; second, because in this way the public gets a speedy return on its investment, for the physician who accepts the payment will be the more competent to discharge the burden which society has placed on him.

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IMMUNITY AGAINST TUBERCULOSIS IN GENERAL PARESIS

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In our knowledge of immunity against infectious diseases no fact is more firmly established than that different individuals of the same species are apt to show different degrees of susceptibility to a given specific infection. In the case of tuberculosis this fact is commonly recognized even by the laity.

The valuable results which have been obtained through experimental studies of immunity have stimulated interest in work in that direction; at the same time investigation of the nature of immunity of spontaneous occurrence has been somewhat neglected. And yet it may be that such investigation might throw light on some problems which experimental studies have failed to elucidate.

In other words, it seems to me that a great deal might be gained if we should be enabled, by a study of cases, to arrive at a complete answer to the question: What circumstances have produced immunity against a given infection in certain individuals?

A number of curious observations pertaining to this subject have already been made. The degree of skin pigmentation seems to be to a large extent an index of the degree of immunity against yellow fever. Prolonged residence in a malarial district apparently confers comparative immunity against malarial infection. Immunity as well as susceptibility to tuberculosis seems to be transmissible by heredity. Chronic alcoholism predisposes to pneumonia. The Japanese possess a high degree of immunity against scarlet fever.

The spontaneous occurrence of immunity against tuberculosis has been but little investigated. The object of this paper is to record the observation that a high degree of immunity against tuberculosis exists in cases of general paresis, although in this disease, owing to the well-known trophic and nutritive disturbances, susceptibility to other infections is distinctly increased.

Some years ago I noticed that although the rate of mortality from tuberculosis at this hospital was high, as shown by findings at autopsies, yet general paresis patients that came to autopsy were remarkably free from tuberculous lesions.

This observation was almost constant, and I was finally led to go over carefully all the autopsy records at our pathologic laboratory with a view to determining whether or not this observation was correct.

For that purpose I tabulated the records in such a manner as to show the frequency of active, quiescent and healed tuberculous lesions in cases of general paresis and in cases of all other psychoses. In this way I found striking corroboration of the observation which I had made.

As the total number of cases at this hospital was small, however, I availed myself, in addition, of the autopsy records from the state hospitals at Ward's Island, New York; at Flatbush, Brooklyn; at Middletown, N. Y., and at Buffalo, N. Y.[1] Thus I had the opportunity of examining the records of 1,056 cases, of which 214 were cases of general paresis. Table 1 shows the resulting statistical findings.

These figures show that tuberculosis is very prevalent among inmates of insane asylums, active lesions having been found in 23.2 per cent. of the cases of all psychoses other than general paresis; yet of the cases of general paresis only 2.3 per cent. showed the presence of active tuberculous lesions.

TABLE 1.—TUBERCULOUS LESIONS FOUND IN CASES OF GENERAL PARESIS AND IN CASES OF OTHER PSYCHOSES

Psychoses.	Number of Cases.	Active Tuberculosis.		Quiescent Tuberculosis.		Healed Tuberculosis.		Tuberculosis Absent.	
		No.	Per Cent.	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
General paresis	214	6	2.3	8	3.7	33	15.4	167	78.6
Other psychoses	842	195	23.2	21	2.5	153	18.1	473	56.2

TABLE 2.—TUBERCULOUS LESIONS FOUND IN CASES OF GENERAL PARESIS AND IN CASES OF OTHER PSYCHOSES AT DIVERS AGES

Age in Years.	Psychoses.	Number of Cases.	Active Tuberculosis.		Quiescent Tuberculosis.		Healed Tuberculosis.		Tuberculosis Absent.	
			No.	Per Cent.	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
1—29	General paresis	10	0	0	0	0	1	10.0	9	90.0
	Other psychoses	67	31	46.3	0	0	6	8.9	30	44.8
30—39	General paresis	73	2	2.7	0	0	7	9.6	64	87.7
	Other psychoses	112	44	39.3	3	2.	10	8.9	55	49.1
40—49	General paresis	70	3	4.3	3	4.3	10	14.3	54	77.1
	Other psychoses	122	37	30.3	3	2.5	15	12.3	67	54.9
50—59	General paresis	35	1	2.9	3	8.6	6	17.1	25	71.4
	Other psychoses	139	23	17.1	5	3.6	21	15.1	90	64.2
60+	General paresis	9	0	0	0	0	6	66.7	3	33.3
	Other psychoses	363	44	12.1	9	2.5	99	27.3	211	58.1
Ages unascertained	General paresis	17	0	0	2	11.8	3	17.6	12	70.6
	Other psychoses	39	16	41.0	1	2.6	2	5.1	20	51.3

These statistics, however, would hardly be acceptable as proof of the existence in cases of paresis of immunity against tuberculous infection, for the reason that paresis occurs chiefly between the ages of 35 and 55 years, that is to say, practically past the age of greatest susceptibility to tuberculosis. Therefore in Table 2 I have retabulated my data in such a manner as to show the frequency of tuberculosis in cases of paresis as well as in cases of other psychoses at different ages.

The figures in this table require no comment or interpretation, as their significance is self-evident.

In this study I have made no use of the many thousands of clinical records of this and other state hospitals, fearing that such records might render my statistics unreliable. Non-tuberculous pulmonary complications are extremely common in general paresis, and clinically these complications can not always be distinguished from pulmonary tuberculosis. On the other hand, tuberculosis among the insane is often overlooked

1. I wish to acknowledge my indebtedness to Drs. Joseph B. Betts of Buffalo, Roy E. Mitchell of Middletown, Glanville Y. Rusk of Ward's Island, and Joseph Smith of Brooklyn, for kindly allowing me to make use of their autopsy records.

owing to absence of subjective complaints, to lack of cooperation on the part of patients in physical examinations, and to the difficulty of obtaining from such patients specimens of sputum for examination.

It seems to me, however, that the number of pathologic records on which the above statistics are based is sufficiently large, and that in view of the remarkable showing of the figures the existence of a distinctly heightened immunity against tuberculosis in cases of general paresis is hardly to be questioned.

To what is this immunity due?

It has been shown by experimental inoculations that paretics are immune against syphilitic infection.[2] This immunity is attributed to previous syphilitic infection, which is now generally regarded as the one essential factor in the etiology of general paresis. The question that naturally suggests itself is: May not the immunity against tuberculosis be due to the same cause? Syphilitic infection, as is well known, gives rise in the human organism to an inflammatory reaction which is almost identical in its nature with that which results from tuberculous infection. This fact, it seems to me, adds probability to the above assumption.

In this connection also other questions of practical interest suggest themselves: If syphilis does confer immunity against tuberculosis, at what clinical stage of syphilis does this immunity develop? How would the course of a case of tuberculosis be affected by a superadded syphilitic infection.

I found among all the pathologic records which I examined five cases of insanity due to syphilitic brain disease. All of the patients were entirely free from tuberculous lesions. I found also records of eight cases of cerebral hemorrhage with histories of syphilis; in two of these a few small scars were found at the apices of both lungs — probably healed tuberculous lesions; the rest showed no evidences of tuberculosis. The number of these cases is too small, of course, to justify any conclusion, and further investigation, both clinical and anatomic, would be required to answer the above questions.

HISTORY OF IRIDOTOMY

KNIFE-NEEDLE VS. SCISSORS—DESCRIPTION OF AUTHOR'S V-SHAPED METHOD *

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To Cheselden has been conceded the honor of being the father and originator of iridotomy. Nearly two centuries have elapsed since he first published the report of his procedure in the Philosophical Transactions for 1728. Ever since that time, his signal success has been acknowledged by all except those who either failed to equal his dexterity, or who were prejudiced by their ambition to originate a new method.

A careful review of the medical literature of the century and a half following Cheselden's announcement can not fail to impress the reader with the great interest attached to operations for the formation of an artificial pupil, which subject was considered second only in importance to that of cataract itself. Not only were a large number of monographs devoted wholly to this subject, but every work on general surgical topics set aside one or more chapters for the discussion of artificial pupil. This is in great contrast to the limited space which modern works on ophthalmology grudgingly yield to this still important subject.

It is difficult for us to appreciate the conditions which brought about so large a percentage of cases of pupillary occlusion. Crude surgical procedures, poor operative technic and the utter lack of asepsis often resulted in iridocyclitis or iridochorioiditis. The couching of the lens, the free discission of both hard and soft cataracts, the frequent introduction of the knife-needle through the dangerous ciliary zone, and the bungling efforts at extraction all increased the tendency to inflammatory reaction, while inadequate therapeutics and lack of antiphlogistic measures frequently permitted the deposit of plastic exudate in the pupillary area, thus resulting in membranous occlusion of the pupil.

OPERATIONS FOR ARTIFICIAL PUPIL

For the sake of historical completeness, and in order to better emphasize the special domain of iridotomy, I will mention briefly the various methods that have been employed in making an artificial pupil. These are:

(1) *Division* of the thickened iris-membrane by an incision made either through the sclerotica or through the cornea. This is true *iridotomy.*

(2) *Excision* of a portion of the iris through a previously made corneal opening. This is now known as *iridectomy.*

(3) *Separation* of the iris from its ciliary attachment. This was generally known as *iridodialysis,* but sometimes called *iridorrhexis.*

(4) Simple *incision* of the pupillary margin, and of the free iris tissue. This has been designated *sphincterotomy* by some, and *coretomy* or *iritomy* by others. Either one of the latter terms is to be preferred, because it is more clearly descriptive.

(5) *Detachment* of the synechiæ at the pupillary margin, either anterior or posterior, thus allowing the pupil to retract. This was known as *corelysis.*

(6) *Strangulation* of the prolapsed iris in the corneal incision was called *iridencleisis.* The prolapse was sometimes tied with a ligature.

(7) *Trephining* of the iris-membrane, by passing a small trephine or punch through a corneal incision.

(8) *Section* and removal of a portion of the sclerotica and chorioid by knife or trephine, with replacement of the conjunctiva over this opening, the conjunctiva thus acting as a substitute for the cornea in transmitting light. This was called *sclerectomy.*

(9) *Transplantation* of the cornea for total leucoma. This was usually preceded by partial or complete trephining of this membrane.

In addition to these nine distinct methods certain combinations of these have been described and successfully practiced:

(10) *Division* and *excision* have frequently been performed together.

(11) *Separation* and *excision* have likewise had some vogue.

(12) *Separation* and *strangulation* have occasionally been practiced.

(13) *Detachment* of the synechiæ and *excision* have also been performed.

2. Krafft-Ebing: Die Aetiologie der progressiven Paralyse, Arbeiten, 1897, ii, 12.

*Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

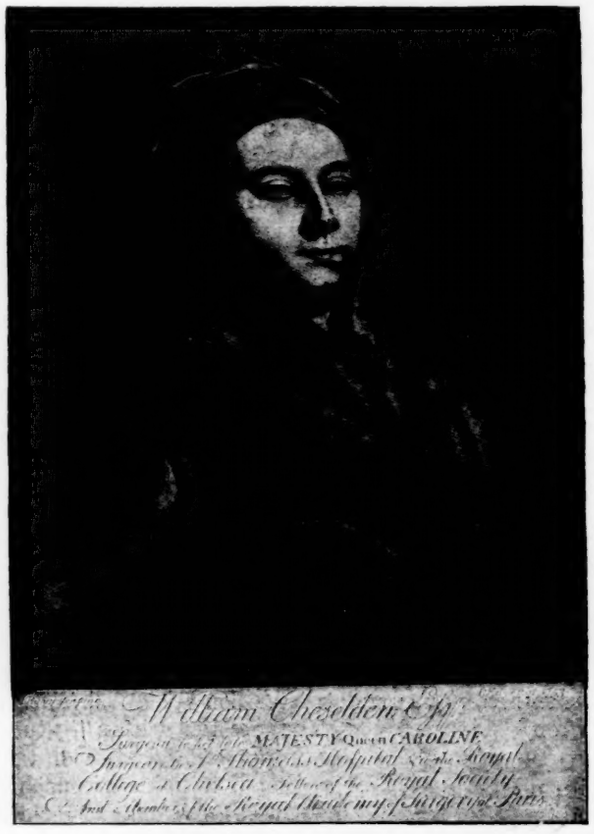
HISTORICAL REVIEW OF IRIDOTOMY

In this brief review of iridotomy[1] we shall confine our attention to the methods that have been advanced for the formation of an artificial pupil in cases of membranous occlusion of the pupil following removal of the lens, either by couching, extraction or discission, the iris-membrane in these cases being chiefly composed of inflamed iris tissue glued down by retro-iridian exudate to the thickened lens capsule.

The early history of iridotomy shows that the advocates of this operation were divided into two schools, (1) those recommending the use of the *knife-needle* for incising the iris-membrane, and (2) those adopting the method of introducing *scissors* through a previously made corneal section and freely excising the iris-membrane, or excising a portion of the same. We will first consider the school which advocated incision by the knife-needle.

I. KNIFE-NEEDLE METHOD

Cheselden,[2] a renowned surgeon, and oculist to Her Majesty, Queen Caroline of England, first announced, in 1728, his success in making an artificial pupil by means of his knife-needle. He made his puncture back of the corneoscleral junction on the temporal side, passing the knife across the posterior chamber, and making a counter-puncture in the iris-membrane near the nasal margin. He then cut through the iris from behind forward as he withdrew the knife, the incision being carried through two-thirds of its extent. The pupillary opening thus made was a long oval slit, horizontally placed. He has reported two successful cases[3] (Figs. 1 and 2), occurring in patients who had previously undergone couching of the lens. His instrument, strange to say, was practically of the same general shape as the Hays knife-needle, but was larger, and judging from the description more clumsily constructed, as there was danger of leakage of the aqueous and sometimes of the vitreous when it was used. Its form resembled a combination of a bistoury and a sickleshaped knife, having a sharp edge on one side, a rounded back, and an acute point. We possess two good illustrations of this knife-needle, one by Cheselden himself (Fig. 3), and the other by his pupil, Sharpe[4] (Fig. 4).



Portrait of William Cheselden, 1688-1752. Painted by Richardson.

For more than a century the method of Cheselden seems to have been the storm center of controversy. Some doubted his veracity, others essayed his operation but failed, while a few had a moderate degree of success. Many attributed to him statements which do not appear in his published report. He says clearly that in each of his cases couching had previously been performed, and yet some have insisted that the lens was present, and must have been wounded. He also states that his incision was made from behind forward, and yet his followers, Sharpe[4] and Adams,[5] both describe the incision as being made from before backward. As Sharpe was his pupil, and presumably had seen him operate, Guthrie[6] suggests the possibility of his having made his incision both ways, the technic being practically the same.

Morand,[7] in his "Eulogy of Cheselden," claims to have personally seen him operate "on an eye in which the iris was closed by an accident," and gives a more detailed description which closely follows the original method. He states that Cheselden presented him with one of his knife-needles as a souvenir of the occasion. Although Morand does not record the exact date of his visit to London, he does state that it occurred during the year 1729. Huguier,[8] in his exhaustive thesis on artificial pupil, also places the date of this visit in the year 1729. This fact is important, as some writers have declared that Morand neither made the visit to London nor saw Cheselden operate, but only quoted the original account given in the Philosophical Transactions. The publication of Morand's high encomiums in 1757 attracted renewed interest to the subject of Cheselden's operation among men of scientific and medical attainments.

Sharpe,[4] in 1739, performed this operation in the same manner as Cheselden, except that after he had entered the knife-needle through the sclerotic he passed it through the iris and across the anterior chamber, and then incised the iris-membrane from before backward. Although he was Cheselden's pupil, and dedicated his small volume on surgery to him, he probably did his master more harm than good, as all the objections to Cheselden's method seemed to be based on the deprecatory remarks of Sharpe. He says, "I once performed it with tolerable success, and a few

1. Wagner, Karl Wilhelm Ulrich: Inaugural Thesis, Göttingen, 1818. He invented the designation iridotomia, which he formed from the original Greek, ἶρις, ἰριδος (the iris) and τομή (cut).
2. Cheselden, William: Philosophical Transactions, London, 1728, xxxv, p. 451.
3. Ibid, abridged, vii, pl. v, Figures 2, 3 and 5.
4. Sharpe, Samuel: A Treatise on the Operations of Surgery, London, 1739, p. 169.
5. Adams, Sir William: Practical Observations on Ectropium, Artificial Pupil and Cataract, London, 1812, p. 37 et seq.
6. Guthrie, G. J.: Operative Surgery of the Eye, London, 1830, p. 428.
7. Histoire et Mémoires de l'Académie Royale de Chirurgie, Paris, 1757, iii, p. 115.
8. Huguier, Pierre Charles: Des Opérations de Pupille Artificielle, Paris, 1841.

months after, the very orifice I had made contracted and brought on blindness again." He mentions the danger of wounding the lens, the lack of success in paralytic iris with affection of the retina, the danger of iridodialysis from traction of the knife, and the possibility of failure because the incision would not enlarge sufficiently. Thirty years later (1769) he published the ninth edition of his book without recording a single additional case, but added the thought that, since extraction of the crystalline lens showed the cornea was not so vulnerable as had been believed, he would "imagine" that a larger knife might be introduced perpendicularly through the cornea and iris and a similar incision made. In his first eight editions he pictures Cheselden's iris-knife (Fig. 4, vide p. 538), but in his ninth edition he substitutes a broad lance-knife with two edges which closely resembled the one Wenzel (vide Fig. 17)

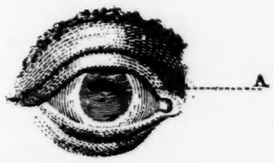


Fig. 1.—Original case of iridotomy. Iris incised above (Cheselden).

Fig. 2.—Second case of iridotomy. Iris incised below (Cheselden).

had just introduced (1767), and which Sharpe suggests "can also be used for the extraction of the cataract." He evidently did not have a very clear idea of the subject, and only succeeded in casting doubt and discredit on the method of Cheselden, which, judging by his own statement, he had tried but once.

Heuermann,[9] in 1756, had already antedated these thoughts of Sharpe by practising a similar method. He passed a double edged lance-knife through the cornea instead of through the sclera, and then made a sweeping incision through the iris-membrane without enlarging the corneal wound. He was probably the first to puncture the cornea with the iris-knife.

Janin,[10] about 1766, performed Cheselden's operation several times with but little success owing to reclosure

Fig. 3.—Original knife-needle in situ, behind the iris (Cheselden).

of the wound by plastic exudate. He adopted Sharpe's modification, but later on changed the incision from a horizontal to a vertical one with better results. He, however, afterward abandoned this procedure and became the originator of the other school, composed of those who preferred to use the scissors.

Guérin,[11] in 1769, made a free corneal incision with a large cataract knife, and then introduced a small iris-knife, with which he made a crucial incision from before backward in the center of the iris-membrane. Although Guthrie[6] distinctly states that Guérin afterwards removed the four angles of the cross with a pair of scissors in order to prevent reclosure of the incision, no direct confirmation of this statement can be found in his writings.

Beer,[12] in 1792, first published his method, which he designated as "an improvement on Cheselden's method." Although the technic is somewhat different, the procedure is practically the same as that originated by Heuermann in 1756. Beer selected certain cases in which a prolapsed iris had followed the lower incision for cataract, causing adherent leucoma with a tensely drawn iris-membrane. He plunged his double-edged lance-knife (Fig. 5) through the cornea and stretched out iris, from above downward and a little obliquely (Fig. 6), so as to incise the center of the tense iris fibers crosswise, at right angles to the line of traction; cutting horizontally when the traction was vertical, and vertically when this was horizontal. In his monograph on artificial pupil,[13] 1805, he substitutes for the lance-knife his new broad iris-knife, which is practically the same as that later shown by Walton (vide Fig. 12), as, indeed, Walton's procedure (vide Fig. 13) was almost identical with that of Beer. For other conditions he usually employed Wenzel's operation until by chance he encountered a puzzling case which led him to perform the operation we now know as iridectomy (1797) and which thereafter became his favorite procedure for artificial pupil.

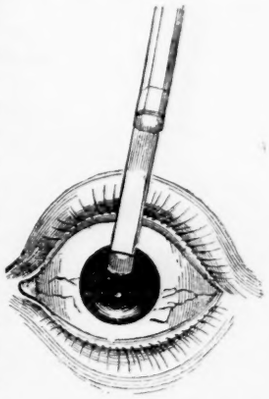


Fig. 6. — Beer's iridotomy with broad iris-knife (after Mackenzie).

Adams,[14] in 1812, revived the operation of Cheselden with certain modifications. While his puncture was made in the same location, his technic was different. He entered the sclera with a small iris-scalpel[5] of his own special design (Fig. 7), which, like Sharpe, he passed through the iris-membrane into the anterior chamber, carrying it across to the nasal side (Fig. 8). From entrance to exit he always kept the edge of the knife turned back toward the iris, so as to cut from before backward. He was thus able by the most delicate pressure of his instrument, to make a long horizontal incision, without causing iridodialysis (Fig. 9). If the first incision appeared to be too short, he did not withdraw the knife entirely, but again carried it forward and partially withdrew it, always cutting in the same plane. To quote his own words, "by repeating the efforts to divide the iris (taking care in so doing to make as slight a degree of pressure as possible upon the instrument, instead of withdrawing it out of the eye at once, as recommended by Cheselden), a division of that membrane

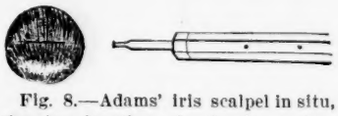


Fig. 8.—Adams' iris scalpel in situ, showing location of scleral puncture (after Lawrence).

Fig. 9. — Iridotomy by Adams' method (after Lawrence).

9. Heuermann, Georg: Abhandlung der Vornemsten Chirurgischen Operationen, Copenhagen and Leipzig, 1756, ii, p. 493.
10. Janin, Jean: Mémoires et Observations sur l'Oeil, Lyon, 1772, p. 191.
11. Guérin, M.: Maladies des Yeux, Lyon, 1769, p. 235.
12. Beer, Georg Joseph: Lehre der Augenkrankheiten, Wien, 1792, ii, p. 12.
13. Beer, Georg Joseph: Ansicht der Künstlichen Pupillen-Bildung, Wien, 1805, p. 105.
14. Adams, Sir William: A Treatise on Artificial Pupil, London, 1819, p. 34, et seq.

may, in almost all cases be effected, of a requisite size to establish a permanent artificial pupil" (Figs. 10 and 11).

Here were three elements of success, a sharp knife, a gentle sawing movement, and the most delicate pressure of the instrument. His method was a decided advance, and he reported success in nearly one hundred cases. Others, less skilful, however, failed of success, and the severe criticisms of Scarpa,[15] though evidently unjust and tinged by personal animosity,[16] cast a shadow of doubt on the method.

From that time on for nearly half a century this form of iridotomy was practically abandoned, the pendulum swinging toward the use of scissors, which Maunoir had popularized and Scarpa had indorsed. Walton,[17] however, about 1852, proposed a method closely resembling that of Heuermann and almost identical with that of Beer (vide Fig. 6). His iris-knife (Fig. 12) was

Fig. 10.—Occlusion of pupil (Adams).

Fig. 11.—The resulting pupil after iridotomy (Adams).

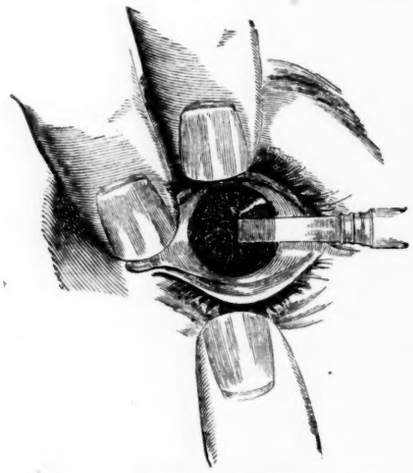


Fig. 13.—Iris knife in position to make central pupil (Walton, after Beer).

practically the same as the broad iris-knife of Beer. He incised the cornea near the limbus, and passed the knife across the anterior chamber to the middle of the iris-membrane which he punctured with a sweeping vertical incision (Fig. 13). If the tissue still retained its elasticity there appeared a long pupillary aperture, elliptical and vertical (Figs. 14 and 15). This incision, however, like all those made through a single set of the iris fibers, was only successful when there was sufficient resiliency remaining in the iris tissue to draw the slit open, and thus keep the edges from uniting. While this method never became very popular, there were some who later practiced it by substituting a very narrow Graefe knife for the iris-knife of Heuermann, Beer and Walton. In fact, this latter procedure still has considerable vogue, both for iridotomy and capsulotomy.

15. Scarpa, Antonio: Trattato Della Principali Malattie Degli Occhi, Ed. quinta, Pavia, 1816, translated by James Briggs, London, 1818, p. 373.
16. Edin. Med. and Surg. Jour., No. 58.
17. Walton, H. Haynes: The Surgical Diseases of the Eye, London, 1861, p. 604.

During the following seventeen years no notable advance was made, the scissors method still retaining its hold on the profession, until in 1869, von Graefe, after long reflection, became convinced of the dangers of that method, and communicated to one of his pupils, M. Meyer, his method of simple iridotomy performed with the knife-needle. Meyer[18] quotes his views as follows:

"For such cases von Graefe has suggested another method of operation, the principle and execution of which are contained in the following note written for us by that illustrious savant in 1869:

"When, in consequence of a cataract operation, the lens is absent, and when there is highly developed retro-iritic exudation, with disorganization of the iris tissue, flattening of the cornea and the other sequelæ of a destructive iridocyclitis, I substitute simple iridotomy for iridectomy, which is the operation hitherto performed, generally without success. The operation consists in inserting a double-edged knife, resembling in shape a very sharp pointed lance-knife, through the cornea and newly formed tissues till it pierces the vitreous body, and immediately withdrawing it; and, while withdrawing it, enlarging the wound in the membranes without increasing the size of the corneal wound. Experience shows that such plastic membranes attached to the atrophied iris and to the capsule of the lens have a tendency to contract sufficient to maintain, to a certain extent, the opening which has been made.

"If, in the ordinary method of iridectomy, combined with laceration or extraction of the false membranes, we find that the artificial pupil usually becomes closed, we must attribute this to an excessive vulnerability, which immediately sets up proliferation in those tissues which have been touched, and which are endowed, in consequence of their structure, with an

Fig. 14.—Occlusion of pupil (Walton).

Fig. 15.—New pupil after incision with iris-knife (Walton).

irritability altogether peculiar. We know that even the transitory reduction of the intraocular pressure, which follows the evacuation of the aqueous humor, is sufficient to give rise to hemorrhage in the anterior chamber, which interferes with the perfect success of the intended operation; but most of our failures in the ordinary methods are due to the irritation caused by the forceps and the traction on the surrounding structures. Simple iridotomy is free from such inconveniences; it is, so to speak, a sub-corneal act, and enjoys the immunity which belongs to subcutaneous operations.

"I have also reduced the corneal wound to a minimum, by using small falciform knives. These are passed through the false membranes, which are then cut from behind forward."

Von Graefe thus proposed two methods, (1) by cutting from before backward with a double-edged lance-knife, according to the method of Heuermann, and (2) by cutting from behind forward with a sickle-shaped knife, after the original suggestion of Cheselden. Later in the same year, as he lay on his last bed of illness, he became so absorbed in the study of this subject that he sent a telegram to the Heidelberg Congress[19] (September, 1869), in which he advocated the method by the sickle-shaped knife-needle as the best procedure. His last message to his colleagues showed, therefore, that through mature conviction he strongly favored the use of the knife-needle, and the making of a sub-corneal incision in the iris-membrane without evacuating the aqueous hu-

18. Meyer, Edouard: Traité Pratique des Maladies des Yeux, Paris, 1880, translated by Freeland Fergus, Philadelphia, 1887, p. 396.
19. Klinische Monatsblätter für Augenheilkunde, 1869, p. 431.

mor. His untimely death, however, prevented him from further perfecting this procedure and presenting it to the profession.

Galezowski,[20] in 1875, published a somewhat similar method in which he used his falciform knife, *aiguille-a-serpette* (Fig. 16), which he introduced through the cornea and iris-membrane, making either a horizontal or a vertical incision, with a "go-and-come" (sawing) movement, after the suggestion of Adams. If this single cut was not sufficient, he made a linear incision of the cornea with a Graefe knife, drew out the iris and cut it off with scissors. By a process of evolution, however, he perfected the former procedure and eliminated the scissors. This latter method was published in the third edition of his book in 1888. He punctured the cornea and iris-membrane with the sickle-shaped knife, making first a horizontal incision by the sawing movement of Adams, and finishing with a second cut in the vertical direction, thus forming a T-shaped incision. In actual practice, however, he frequently prolonged this second cut, thus making a crucial incision after the manner of Guérin.[11]

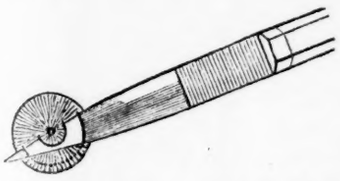


Fig. 17.—Wenzel's cataract knife and method of incision (after MacKenzie).

The writer,[21] in 1888, was led to devise an operation with a modified Hays knife-needle, in which through a corneal puncture he made a converging incision in the iris-membrane which resembled an inverted V. The resulting pupil opened up and formed either a triangular or an oval-shaped pupil depending on the degree of stiffness or resiliency of the iris-membrane. This method will be described in detail later on.

II. SCISSORS METHOD

We will now return to the consideration of the second school in which scissors were introduced through a previously made corneal section and a free incision was made in the iris-membrane, or a portion of the membrane excised.

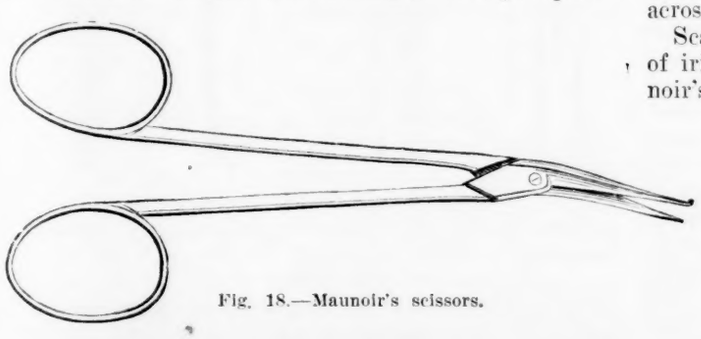


Fig. 18.—Maunoir's scissors.

Janin,[10] in 1768, having abandoned the procedure of Cheselden, proposed a new method. He incised the cornea below as for cataract extraction, and raised the corneal lip with a spatula while he introduced a pair of curved scissors, the lower blade of which was pointed. He plunged this sharp blade through the iris-membrane, and with a single vertical cut made a crescentic pupil which gaped sufficiently for visual purposes. As this is the first known description of iridotomy by the scissors method it is probable that Janin was the originator of this procedure.

Wenzel,[22] in 1786, employed a different method. With a lance-shaped cataract knife he entered the cornea, dipped through the iris-membrane, returned to the anterior chamber, and continuing to cut made a counter-puncture on the opposite side of the cornea, following which he completed his cataract incision. This gave a semilunar flap of iris tissue which could easily be excised by scissors passed through the large corneal opening (Fig. 17).

Maunoir,[23] in 1802, took up the method of Janin, with the object of improving it. He made an incision near the corneal margin, through which he introduced a pair of long, thin, angular scissors of his own design (Fig. 18), one blade of which was sharp-pointed like a lancet, and the other button-pointed like a probe. The iris-membrane was then punctured by the sharp blade at about the natural location of the pupil, and an incision executed toward the ciliary margin of the iris. Finding that this single incision did not always succeed,[24] he subsequently improved this method by making a second incision from the pupillary area toward the iris margin, in the line of the radiating iris fibers, thus making a divergent V (Fig. 19). This triangular flap was then allowed to shrink back, or if too stiff, was drawn out and excised. The resultant pupil assumed the shape either of a triangle, a parallelogram (Fig. 20), or a crescent (Fig. 21). He always made his incision parallel with the radiating fibers of the iris and across the circular fibers.

Fig. 19.—V-shaped iridotomy with scissors (Maunoir).

Fig. 20.—Parallelogram pupil (Maunoir).

Scarpa,[15] in 1818, having abandoned his own method of iridodialysis as wholly unsatisfactory, adopted Maunoir's procedure with enthusiasm, chiefly because he had by a friendly correspondence[24] personally encouraged Maunoir with advice and suggestion during its development. He indorsed Maunoir's plan of a double incision when he stated his conviction that "experience has proved that in order to obtain, with the most absolute certainty, a *permanent* artificial pupil, it is necessary to make *two* incisions in the iris so as to form a triangular flap in the membrane, in the form of a letter V, the apex being precisely in the center of the iris and the base near the great margin." Some have claimed that Scarpa himself originated the V-shaped incision, but

Fig. 21.—Crescent pupil (Maunoir).

20. Galezowski, Xavier: Maladies des Yeux, 2d. ed., Paris, 1875, p. 401, and 3rd. ed., Paris, 1888, p. 384.

21. A brief description of the author's method, written by him, was first published in de Schweinitz on Diseases of the Eye, Philadelphia, 2nd. ed., 1896, p. 607.

22. Wenzel, Baron de: Traité de la Cataracte, Paris, 1786, translated by James Ware, London, 1805, ii, p. 256.

23. Maunoir, Jean Pierre: Mémoires sur l'Organisation de l'Iris, et l'Opération de la Pupille Artificielle, Paris, 1812.

24. Medico-Chir. Trans., London, 1816, vii, p. 301, and ix, p. 382

he gives Maunoir full credit for its successful accomplishment, although he does suggest some additional indications for its practical application.

His opposition to the knife-needle incision of Cheselden arose from the fact that the pupil either did not open, or if it did open would not remain permanent, chiefly because of the single iris incision. His antagonism to the more successful procedure of Adams was the result of a caustic personal controversy[16] with that skilful surgeon, who ably parried his charges.[14] His great influence with the profession of that day, however, served to check the sentiment in favor of Adams' procedure, and when the weight of his indorsement was cast in favor of Maunoir's operation the scales were decisively turned toward the side of the scissors method.

Mackenzie,[25] in 1840, practiced Maunoir's operation with considerable success, but in certain cases found it necessary to employ a slight modification of this procedure. He reversed Maunoir's incision by making the same divergent V across the radiating fibers of the iris instead of parallel with them (Fig. 22), thus securing a triangular pupil (Fig. 23), which Lawrence[26] thought might succeed in some cases where Maunoir's method would not be available.

Fig. 22. — Mackenzie's incision in cornea and iris-membrane (Mackenzie).

Fig. 23.—Resulting triangular pupil from Mackenzie's incision (Mackenzie).

Fig 24.—Plan of Bowman's first iris incision. Divergent V.

Fig. 25. — First incision completed. Plan of second, showing double V.

Fig. 26. — Rhomboidal pupil, resulting from Bowman's iridotomy.

Bowman,[27] in 1872, proposed a method which, though surgically difficult to execute, was quite ingenious, and may have been the initial suggestion that stimulated DeWecker to write his monograph in the following year. I will quote his description as follows: "We make a double opening simultaneously on opposite sides of the cornea. It is more convenient, of course, to make these two openings in a horizontal than in a vertical direction. I then run a pair of scissors in two diverging lines (V) from each incision, thus enclosing between the incisions a large square or rhomboidal portion of the iridial region including the pupil, and all the structures there. You then withdraw the portion thus cut out. There is no drag on the ciliary region; whatever is withdrawn has been cut away from its connections beforehand" (Figs. 24, 25 and 26).

This method is simply an elaboration of the one proposed by Maunoir, in which, instead of forming one divergent V, Bowman has made a duplicate incision on the opposite side, and by joining the bases of these two resultant triangles has caused them to take the shape of a rhomboid, thus <>.

25. Mackenzie, William: Diseases of the Eye, 3rd. ed., London, 1840, p. 746, American edition, edited by Hewson, Philadelphia, 1855, p. 815.
26. Lawrence, Sir William: Diseases of the Eye, American edition, edited by Hays, Philadelphia, 1854, p. 478.
27. Transactions, Fourth Int. Ophth. Cong., London, 1872, p. 179.

DeWecker,[28] in 1873, published his admirable monograph on iridotomy, in which he proposed the operation which bears his name, and which has long stood as the best recognized method of this procedure. He advocated two different ways of performing this: 1, simple iridotomy, and 2, double iridotomy.

1. *Simple Iridotomy.*—This is practically the same operation as Critchett's sphincterotomy and Bowman's visual iridotomy, although differently executed. It has been supplanted in our day by iridectomy, and does not, therefore, come within the purview of this discussion.

2. *Double Iridotomy.*—He rightly claimed that this was both antiphlogistic and optical in its purpose. He employed two distinct methods, which he designated as (*a*) iritoectomie, and (*b*) iridodialysis. The instruments he used were a small stop-keratome (Fig. 27) and a pair

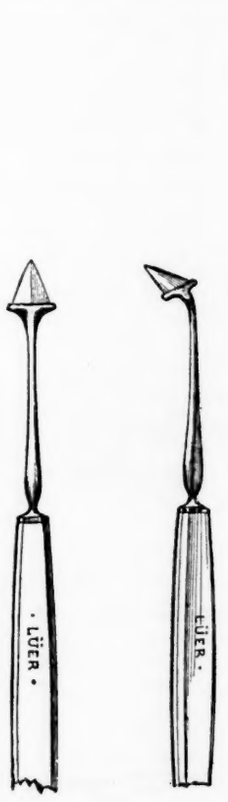


Fig. 27. — Stop-keratomes, straight and angular (De Wecker).

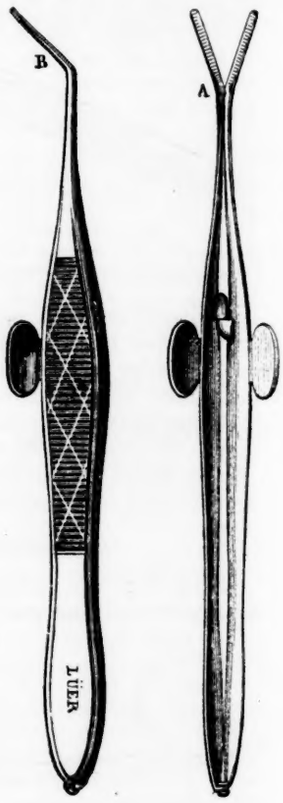


Fig. 28. — Forceps-scissors (pinces-ciseaux) (DeWecker).

of specially devised fine iris scissors (pinces-ciseaux) (Fig. 28), one blade being sharp pointed and the other blunt. These scissors were a great mechanical advance over all previous instruments of this kind, and undoubtedly proved to be a most important element in the success of his procedure.

(*a*) *Iritoectomie.*—He entered the stop-keratome through the cornea, made an exact 4 millimeter incision, and then partly withdrew it while letting the aqueous slowly escape. As soon as the iris-membrane floated up against the knife, he pressed forward, making a 2 millimeter incision in the iris. Slowly withdrawing the knife, he introduced the sharp point of the scissors through the iris buttonhole and cut obliquely from either extremity of the incision toward the apex of a

28. DeWecker, Louis: Annales d'Oculistique, Sept., 1873, p. 123, et seq.

triangle, thus making a convergent V (Fig. 29). He then grasped the resulting triangular flap with the forceps and removed it, leaving an open central pupil.

(*b*) *Iridodialysis.*—His second method was a counterpart of Maunoir's earlier operation, with the addition of iridodialysis. He made the corneal and iris incision with the stop-knife, as in the previous method. Slipping in his scissors he cut from the center of the iris-membrane toward the periphery, and duplicated this incision at an oblique angle to the first, thus making a divergent V (Fig. 30). This formed a triangular flap which he grasped with forceps and tore from its ciliary attachment by iridodialysis.

DeWecker's procedure was planned by a skilled operator, and required great dexterity in its execution. When successful, however, the result was most brilliant. Nevertheless, it was impossible to eliminate the danger of hemorrhage and loss of fluid vitreous in iritoectomie, while in iridodialysis there was the added danger of a torn ciliary surface and traction on the ciliary body. His strict injunction to have a trained assistant hold up the speculum blades in order to avoid the loss of fluid vitreous, showed how much he feared this disastrous contretemps. The success of his method of incision is well shown in the illustration of his two cases (Figs. 31 and 32).

I have already suggested the possibility of Bowman's paper before the London Congress of 1872 having given origin to DeWecker's monograph in 1873. This seems

Fig. 29.—Iritoectomie. Convergent V (DeWecker).

Fig. 30.—Iridodialysis. Divergent V (DeWecker).

quite reasonable when we consider that Bowman proposed two methods of iridotomy, one his double V operation with a rhomboidal pupil (previously quoted), and the other a visual iridotomy or sphincterotomy, by cutting through the pupillary margin with a blunt corneal knife. These two methods are exact prototypes of DeWecker's proposals. Furthermore, DeWecker was present at the London Congress where he heard Bowman's paper, and took part in its discussion. In fact, thirteen years later DeWecker acknowledged[29] that after considering the objections to Bowman's method of iridotomy "I addressed myself at that time to the search for an instrument which allows the avoidance of all traction on the iris, and which can be handled through a narrow opening, while exerting its cutting action in a plane parallel to the surface of the cornea, against which the diaphragm of the iris applies itself, after the escape of the aqueous humor. The forceps-scissors having been discovered, it was easy for me to cause to be revived the procedure of Janin, and to make it decisively take rank in modern ocular surgery."

DeWecker makes only a casual reference to Maunoir's method, but credits Janin with the original suggestion of the method which he has thus elaborated. Nevertheless, it is quite evident that DeWecker's method was simply a modification of the one outlined by Maunoir seventy years before. Furthermore, he lays down the same rule that Maunoir first offered: "Always cut parallel to the radiating fibers and perpendicularly to the circular fibers of the iris."

29. DeWecker et Landolt: Traité Complet d'Ophtalmologie, Paris, 1886, ii, p. 393.

RELATIVE ADVANTAGES OF KNIFE-NEEDLE VS. SCISSORS

In reviewing the questions at issue between these two schools of iridotomy, one can not help noticing the constant oscillation from one method to the other as certain advances were made. The method by the knife-needle seemed to possess the advantage of easy accomplishment and less postoperative disturbance, but with the disadvantage that often the pupillary opening was inadequate and promptly reclosed by plastic exudate. On the other hand, the method by the scissors was more difficult of accomplishment, caused more traumatism to the eye, was often complicated by great loss of fluid vitreous, and was frequently followed by severe inflammatory reaction. If, however, it proved successful, the resulting pupil was permanent and sufficiently large for visual purposes. The inclination of all operators seemed to be toward the use of the knife-needle, and it was only necessity that forced them to adopt the more complicated procedure of the open operation with scissors. Von Graefe seemed to recognize this when he referred to the knife-needle incision as "a sub-corneal act which enjoys the immunity of subcutaneous operations."

The chief advantages of iridotomy by the knife-needle are the ease of incision, the lack of traction on the ciliary body, the freedom from postoperative inflammatory reaction, the avoidance of opening an eyeball

Fig. 31.—Pupil by iritoectomie. Two incisions. Convergent V (DeWecker).

Fig. 32. — Stenopaic pupil. Single iris incision (DeWecker).

which may contain fluid vitreous, the lessening of the tendency to iris hemorrhage from lowered tension, and the avoidance of the nebulous scar which often follows a large corneal incision in old inflammatory eyes. The disadvantages revealed in the method of the knife-needle lay partly in the method and partly in the faulty instruments constructed in that day. Cheselden, Morand, Sharpe and Adams all made the mistake of entering the eye back of the corneoscleral junction, which is so near to the danger zone of the eye. Adams, however, made a two-fold improvement in adding to his operation a sawing movement and in advocating the "most delicate pressure of the instrument" in order to make a free incision. Heuermann was apparently the first to make the puncture through the cornea instead of through the sclera.

The advocates of the knife-needle method long labored under the disadvantage of making a single iris incision, while those who employed the scissors early discovered that a double incision was necessary to success. Although Janin was the originator of the scissors method, Maunoir was the first to deliberately try a triangular flap, which DeWecker later elaborated and made a permanent success. The many disastrous results of the open operation, however, compelled conservative surgeons, like von Graefe, to revert to a study of Cheselden's method, and to seriously consider the great advantages which a successful iridotomy by the knife-needle method would confer on surgeon and patient alike.

THE CHOICE OF A KNIFE-NEEDLE

1. Cheselden's knife-needle (Figs. 3 and 4) was a splendidly designed instrument, but a poorly executed one. The blade was too large (11 mm.) and the shank improperly rounded, so that both aqueous and vitreous were liable to escape through the scleral puncture. This leakage may explain many failures, although the single iris incision was undoubtedly the most serious fault of the method.

2. The iris-scalpel of Adams (Fig. 7) was poorly designed but splendidly executed, the long blade completely filling the wound and thus preventing the escape of any fluid. The cutting edge, however, was too long (15 to 20 mm.), and especially so for the execution of the sawing movement advised by Adams.

3. The double-edged lance-knife (Figs. 5, 12 and 33) employed by Heuermann, Beer and von Graefe, was useful for the long sweeping incision in the iris-membrane which they advocated, but is not adapted for the method which will be described later. The same shaped knife (Fig. 33) with a smaller blade and a longer shank is also used for this purpose, but is likewise too broad, too oval pointed and too much bellied to cut well, while the upper edge is liable to scarify Descemet's membrane at the same time that the lower edge is executing the incision in the iris tissue.

4. The sickle-shaped knife (Fig. 16) which von Graefe recommends and Galezowski employs, is excellent for making the puncture, but for the go-and-come movement, which Galezowski advises, is not nearly so good as the straight blade with a slight falciform point. It closely resembles the older falciform knife of Scarpa.

5. The knife-needle of Knapp (Fig. 34), which is so generally used for capsulotomy, is unfortunately not well adapted for iridotomy. The point is too oval, the cutting edge is too much bellied, and the blade is too short (5 mm.). It will not easily puncture a dense iris-membrane, and the long sawing incision can not be well executed, because the short blade either persists in slipping out of the iris incision or else allows the membrane to ride up on the shank, in either case interfering with the completion of the operation.

6. Sichel's iridotome (Fig. 35) closely resembles Knapp's knife-needle, and although specially designed for this purpose, has the same faults, an oval point and a bellied edge. On the other hand, the blade is too long (11 mm.) to be easily manipulated in the anterior chamber.

7. The Hays knife-needle (Fig. 36), as suggested in the early part of this paper, has the same general shape as Cheselden's instrument, although much smaller. It was devised by Dr. Isaac Hays, an early surgeon of the Wills Hospital, and, although not well known to the profession at large, has been in constant use by the staff of that hospital for more than half a century. I may be pardoned for briefly quoting the original description of the instrument as published by Hays[30] in 1855:

"This instrument from the point to the head, near the handle (a to b, Fig. 36), is six-tenths of an inch, its cutting edge (a to c) is nearly four-tenths of an inch. The back is straight to near the point, where it is truncated so as to make the point stronger, but at the same time leaving it very acute, and the edge of this truncated portion of the back is made to cut. The remainder of the back is simply rounded off. The cutting edge is perfectly straight and is made to cut up to the part where the instrument becomes round, c. This portion requires to be carefully constructed, so that as the instrument enters the eye it shall fill up the incision, and thus prevent the escape of the aqueous humor."

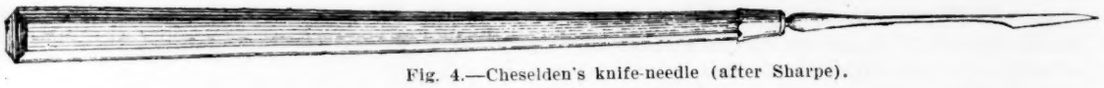


Fig. 4.—Cheselden's knife-needle (after Sharpe).

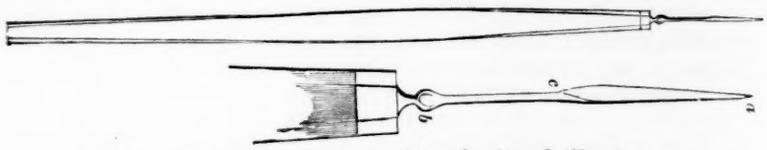


Fig. 36.—Hays' knife-needle, exact size and enlarged (Hays).

Fig. 16.—Sickle-shaped knife, Aiguille-à-serpette (Galezowski).

Fig. 35.—Sichel's iridotome (after Meyer).

Fig. 34.—Knapp's knife-needle.

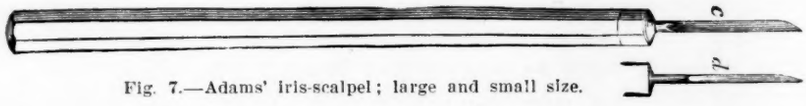


Fig. 7.—Adams' iris-scalpel; large and small size.

Fig. 37.—Ziegler's model of knife-needle.

Fig. 33.—Double edged lance-knife (modern model).

Fig. 5.—Double edged lance-knife (Beer).

Fig. 12.—Iris-knife (Walton, after Beer).

THE VARIOUS KNIFE-NEEDLES AND IRIS-KNIVES MENTIONED IN THE TEXT. (Grouped together for study and comparison.)

30. Amer. Jour. of the Med. Sciences, July, 1855, p. 82.

8. The knife-needle, which I invariably use, is a modified pattern of that devised by Hays. The form of this instrument lies midway between the falciform knife and the bistoury, and possesses the advantages of both. It has a very delicate point which punctures easily, and an excellent cutting edge of sufficient length (7 mm.). If the shank is properly rounded it can be used with a sawing motion, sliding backward and forward through the corneal puncture without injuring the cornea, and without allowing the aqueous to escape. To accomplish this the more easily, the shank has been made 4 mm. longer than the original model. This instrument, therefore, seems to meet all the requirements of a perfect iris-knife, viz., a falciform point which makes the best puncture, a straight edged blade which makes the best incision, and a cutting edge 7 mm. long, which is the best length for properly executing the sawing movement. My model[31] of knife-needle (Fig. 37) resembles Cheselden's knife, as shown by Sharpe (Fig. 4), even more closely than the original pattern of Hays does.

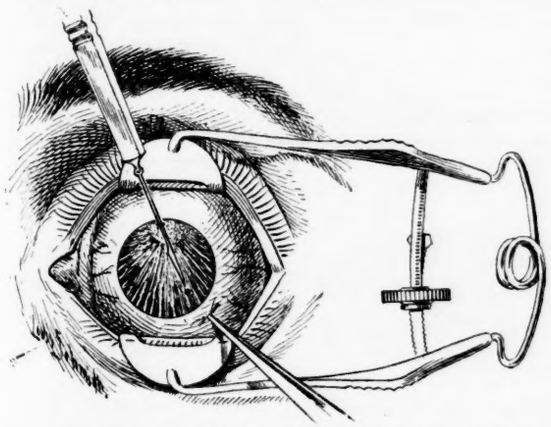


Fig. 38.—Author's V-shaped iridotomy. Knife-needle entered through cornea.

ESSENTIALS OF SUCCESS IN IRIDOTOMY BY THE KNIFE-NEEDLE METHOD

1. A good knife-needle must be carefully selected. We have already concluded that the modified Hays knife-needle is the best model for this purpose. The knife-needle must, of course, have a well sharpened point and edge.

2. The character of the incision in the iris-membrane is of vital importance. It should be a double incision. Guérin, Maunoir, DeWecker and Galezowski recognized this. Guérin made a crucial incision, Maunoir and DeWecker adopted the triangular flap, while Galezowski advocated the T-shaped cut. Our choice is the V-shaped incision, which is undoubtedly the only one that will cut through all the iritic fibers in such a way as to give us the greatest retraction of the membrane.

3. Absolutely no pressure should be made in cutting with the knife-needle. This must be recognized as the main secret of success, whether you are incising a dense, felt-like iris-membrane, or a thin filmy capsule. If this rule is observed all traction on the ciliary body will be avoided.

4. The knife-needle should slide backward and forward through the corneal puncture with a gentle sawing movement.

5. The corneal puncture and membrane counter-puncture should be far enough apart to make the corneal puncture a good fulcrum for the delicate leverage necessary in executing the iris incision.

6. The knife-needle should be so manipulated that no aqueous shall be lost, as this accident may prevent the completion of the operation, and may increase the tendency to iris hemorrhage by lowering the ocular tension.

7. Every incision should be made a thoroughly clean cut, and all tearing of the tissues should be avoided.

8. The most perfect artificial illumination should be secured, either by an electric photophore or a condensing lens, as both iridotomy and capsulotomy require constant and close inspection of the operative field.

AUTHOR'S V-SHAPED IRIDOTOMY

The method of V-shaped iridotomy, performed by me with my modified Hays knife-needle, may be described as follows:

First Stage.—With the blade turned on the flat, the knife-needle is entered at the corneo-scleral junction, or through the upper part of the cornea (Fig. 38), and passed completely across the anterior chamber to within 3 millimeters[32] of the apparent iris periphery. The knife is then turned edge downward, and carried 3 millimeters to the left of the vertical plane (Fig. 39).

Second Stage.—The point is now allowed to rest on the iris-membrane, and with a dart-like thrust the membrane is pierced. Then without making pressure on the tissue to be cut, the knife is drawn gently up and down with a saw-like motion, until the incision has been carried through the iris tissue from the point of the membrane puncture to just beneath the point of the corneal puncture. This movement is made wholly in a line with the axis of the knife, the shank passing to and fro through the corneal puncture, and the loss of any aqueous being carefully avoided in the manipulation.

Fig. 39.—Author's V-shaped method. Plan of first incision.

Fig. 40.—First incision completed. Plan of second incision.

Fig. 41.—Pupil resulting from V-shaped iridotomy.

Third Stage.—The pressure of the vitreous will now cause the edges of the incision to immediately bulge open into a long oval (Fig. 40) through which the knife-blade is raised upward, until above the iris-membrane, and then swung across the anterior chamber to a corresponding point on the right of the vertical plane, which, owing to the disturbance in the relation of the parts made by the first cut, is now somewhat displaced and the second puncture must be made at least 1 millimeter farther over, i. e., 4 millimeters to the right of the vertical plane (Fig. 40).

Fourth Stage.—With the knife point again resting on the membrane, a second puncture is made by the same quick thrust, and the incision rapidly carried forward by the sawing movement to meet the extremity of the first incision, at the apex of the triangle, thus making a *converging* V-shaped cut (Fig. 41). Care must be taken at this point that the pressure of the knife-edge on the tissue shall be most gentle, and that the second incision shall terminate a trifle inside the extremity of the first, in order that the last fiber may be severed and thus allow the apex of the flap to fall down behind the lower

31. This knife-needle has been carefully made for me by Lüer, Paris, and by Ferguson, Philadelphia.

32. Compare with millimeter scale beneath each diagram.

part of the iris-membrane. If the flap does not roll back of its own accord it may be pushed downward with the point of the knife. When the operation is completed the knife is again turned on the flat and quickly withdrawn.

CAUSES OF FAILURE

The most fruitful sources of failure are, first, a poorly sharpened knife-needle; second, a badly planned incision; third, inability to sever the apex of the triangle; fourth, the early loss of aqueous; fifth, too heavy pressure with the knife-edge, and sixth, rocking or rotating the knife backward instead of making the sawing movement. All of these can easily be avoided, if the surgeon will only exercise care and good judgment.

In an occasional case, the iris-membrane may be so stiff that the apex of the flap will not retract. If the apex can not be pushed down by the tip of the knife turn the blade on the flat, puncture the base of the flap by a quick thrust, and with a sawing motion cut across its fibers so that it will fall back as though hinged; or, if positive that the vitreous is not fluid, introduce a keratome in the cornea below, draw out the triangular tongue, cut it off with the iris scissors, and dress back the base with a silver spatula.

It is possible that the capsule, or iris tissue, may lose its anchorage. In that event we must either reverse the procedure by entering the knife-needle below, and cut from above downward, or else pass a second knife-needle through the loosened edge of the membrane to fix it, and then proceed with the usual method.

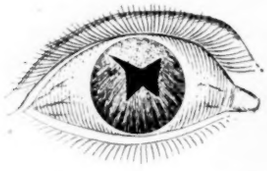


Fig. 42 (CASE 1).—Iridotomy in a stiff iris-membrane (author's original case).

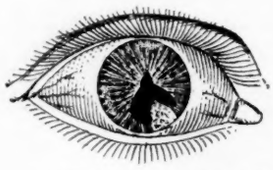


Fig. 43 (CASE 2).—Iridotomy in a soft eye-ball, with dense iris-membrane.

Occasionally, the apex of the triangular flap will hold fast, because the last fiber of tissue has not been severed. If the leverage is too short to incise it from above, withdraw the knife-needle and reintroduce it far enough from the apex to secure the proper leverage, and again incise it gently, until it falls back.

Traction on the ciliary processes, accidental puncture of the ciliary body, or the tearing of the membrane from its ciliary attachment may all set up iridocyclitis or glaucoma, and should therefore be avoided. As tense capsular bands are liable to engender a similar condition they should be incised. If any of these traction bands should remain in the edge of the coloboma, we may enter the knife behind them and gently saw through into the already cleared pupil, before withdrawing the knife.

ILLUSTRATIVE CASES

I will briefly cite a few examples of the V-shaped operation, two that were my first efforts, and two that were recent cases. They were all of the class that are often abandoned as hopeless; hence the visual result is far below the operative success.

CASE 1.—*History.*—F. M., aged 65 years. O. D. complete membranous occlusion of pupil from iridocyclitis, following cataract extraction. The iris and capsule are tensely drawn up toward the ciliary border. Light perception and projection good. Several efforts have been made to incise the membrane, but without success. Admitted to Wills Hospital by the late Dr. Goodman, through whose courtesy I operated.

Operation.—On Jan. 15, 1889, I made two long incisions, almost crucial, and extending beyond the apex of the V, resulting in a W-shaped pupil, on account of the stiff iris membrane (Fig. 42). With S. + 10 D. he saw 20/50.

CASE 2.—*History.*—J. S., aged 30 years. O. S. injured and enucleated. O. D. sympathetic inflammation, chorioidal cataract; three discissions and one iridectomy, down and in. Membranous occlusion of pupil. I first saw him in 1888 while house surgeon at the Wills Hospital, where iridotomy was skilfully performed nine times by one of the surgeons, the methods being varied and ingenious, but without success, as the incision was invariably closed by plastic exudate. My interest in this series of operations first drew my attention to the subject of iridotomy, and stimulated me to develop the method I have here submitted and which I first tried in Case 1.

One year later this patient came to my clinic at St. Joseph's Hospital. Iris was discolored, capsule thickened and visible through the coloboma, down and in; areas of scleral thinning, with pigmented chorioid showing through. T—3. Light perception good, projection only fair.

Operation.—On June 17, 1889, I made a V-shaped iridotomy along the outlines of the former iridectomy. The membrane freely opened up into a triangular or pear-shaped pupil (Fig. 43), which proved permanent, but was only useful for quantitative vision, about 5/200. No further test could be made because the disorganized vitreous was filled with floating masses. I have seen him within a year, going about and earning his living. From an operative standpoint I have always considered this early effort one of my most successful cases, chiefly because of the great density of the iris-membrane and the lowered tension of the eyeball.

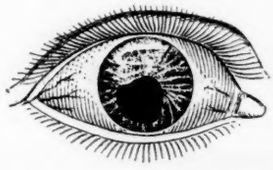


Fig. 44 (CASE 3).—Iridotomy in a soft eyeball, with thin membrane and iris bombé.

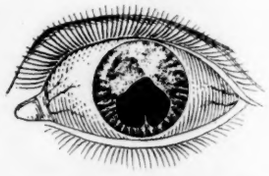


Fig. 45 (CASE 3).—Iridotomy showing apex of iris flap after incision through adherent fibers.

CASE 3.—*History.*—Mrs. A. D., aged 45 years. O. D. iridectomy for glaucoma seven years ago. O. S. iridectomy two years ago by another surgeon, at which time there occurred slight incarceration of iris, followed by sympathetic ophthalmitis in O. D. The severe iridochorioiditis resulted in cataract and some shrinkage of globe. The cataracts were extracted from both eyes in 1907, followed by dense opacity of cornea above, iris bombé, shallow anterior chamber, T—2. Here was a soft, distensible, iris tissue with shallow anterior chamber and greatly lowered tension of the eyeball, constituting one of the most difficult conditions to operate on.

Operation.—On May 13, 1907, the eyes being quiet, and light perception and projection fair, V-shaped iridotomy was performed on both eyes. The leucomatous areas in the upper part of cornea necessitated making the pupil below. In O. D. the pupil opened up beautifully (Fig. 44), but in O. S. a tag of iris hung fast (Fig. 45) and was again incised two months later. The artist has illustrated the remaining portion of this tag very well. As soon as the iris tissue was incised it retracted, making the pupils larger than the area of incision. The test for glasses, nearly a year later, March 15, 1908, yielded the following result:

O. D. S + 13 D ⌒ C + 4.75 D ax. 105° = 20/40.
O. D. S + 13 D ⌒ C + 3 D ax 65° = 20/40.
Add
O. D. S + 4 D = J. 10.
O. S. S + 4 D = J. 10.

These were ordered in biconvex torics. She had worn glasses for a year, but claims vision is much better with the new ones. This seems like an excellent result when we consider that these

eyes had passed through glaucoma, iridochorioiditis and cataract, followed by membranous occlusion of pupil, lowered tension and fluid vitreous. The high hyperopia and astigmatism show the phthisical condition of each globe. There is marked cupping of both nerve heads and the fields are contracted.

CASE 4.—*History.*—Mrs. B. M., aged 64 years. O. S. struck by a stone in childhood, destroying vision. Dense leucoma above, chorioidal cataract, calcareous deposit; exclusion of pupil. T—1. Lpc. good. Lpj. fair. O. D. recurrent attacks of inflammation for seven years, posterior synechiæ and cataract. Counts fingers at 6 inches. Extraction with iridectomy, both eyes, in 1907. Site of incision has become densely leucomatous. O. D. shows capsular area above, iris drawn up. O. S. complete membranous occlusion of pupil.

Operation.—Oct. 7, 1907, V-shaped incision was executed entirely in the iris tissue of O. D., the pupil spreading out into an ovoid shape (Fig. 46), leaving area of capsule and small band of iris above. O. S. was operated on Jan, 13, 1908, by the same method, the resulting pupil being almost round (Fig. 47) owing to the resilient iris tissue.

The test for glasses, March 10, 1908, gave the following result:

O. D. S + 12 D ⌒ C + 1.25 D ax. 135° = 20/50.
O. S. S + 12 D ⌒ C + 1.25 D ax. 135° = 20/70.

Add

O. D. S + 5 D = J. 6.
O. S. S + 5 D = J. 12.

These were ordered in biconvex torics, which she now wears with great comfort. It is worth noting that O. S. still retained good visual acuity, although blinded by an injury nearly fifty years before.

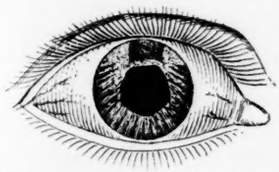


Fig. 46, (CASE 4).—Irido-capsulotomy, with band of iris, and capsule in coloboma above.

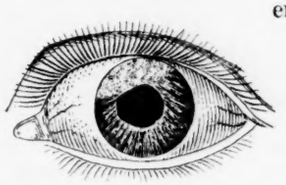


Fig. 47, (CASE 4).—Iridotomy with round central pupil in a resilient iris-membrane.

CAPSULOTOMY BY THE V-SHAPED METHOD

The application of the V-shaped method to capsulotomy shows an even greater field of usefulness, as this method is par excellence the best way of incising a delicate secondary capsular cataract. This should be done under artificial illumination. The pupil should be dilated, as the area of incision is necessarily smaller than in iridotomy, and unnecessary wounding of the iris should be avoided. The proposed capsular opening must be so calculated as to fall within the area of the undilated pupil, or partly within the coloboma if an iridectomy has been previously performed.

The knife-needle is entered at the upper corneal margin, passed across the anterior chamber to a point 2 mm. to the left of the vertical plane (Fig. 48), the capsule punctured by a quick thrust, and the saw-like incision carried from below upward, as in iridotomy. The knife is then raised up above the capsule and swung 3 mm. to the right of the vertical plane (Fig. 49), the capsule is again punctured, and a duplicate incision carried up to join the first, at the apex of the converging V (Fig. 50.)

Where the pupillary margin is adherent to the underlying capsule, or the pupillary space is too small, it may be necessary to start the incision in the iris tissue, a little below the pupil, and then cut upward until the knife emerges into the pupillary area, thus making an irido-capsulotomy. The soft iris tissue is easily incised if no pressure is made with the knife, and the sawing motion is maintained.

AFTER-TREATMENT

Postoperative inflammatory reaction is infrequent, but if it should occur the usual antiphlogistic treatment of atropin, calomel, ice-pads and leeching should be actively instituted and continued until the eye is absolutely quiet. The operation itself is frequently an antiphlogistic measure, because it relieves iris-tension and traction on the ciliary body. The usual compress of gauze and cotton, covered with a Liebreich patch, may be applied to the eye for the first twenty-four hours and rest in bed enjoined for that period.

IN CONCLUSION

We have carefully reviewed the history of iridotomy for nearly two centuries, and noted how the pendulum has swung from knife-needle to scissors, and back again. We have learned that Cheselden, the father of iridotomy, originated the method of incision by the knife-needle, which Heuermann modified, and Adams later revived and improved. We have seen how Janin abandoned this procedure and originated the scissors method, which Maunoir greatly improved and caused to hold sway for more than half a century. We have been deeply impressed by the fact that the mature, judicial mind of von Graefe led him to abandon the scissors and revert to the knife-needle method; and finally we have seen how, soon after his death, the great influence of De Wecker had swerved the thought of the ophthalmic world back to the adoption of the scissors method in a greatly improved form.

Fig. 48.—Author's V-shaped capsulotomy. Plan of first incision.

Fig. 49.—First incision completed. Plan of second incision.

Fig 50.—Pupil resulting from V-shaped capsulotomy.

Whether I have succeeded in citing sufficient facts and arguments to establish my thesis in favor of the knife-needle, or not, I nevertheless submit to the profession my V-shaped method of iridotomy and capsulotomy with a confidence born of twenty years' successful experience in its use, and with the hope that it may prove equally efficient in the hands of others who will take pains to study and understand the method, and who may have the patience to put it in practice.

1625 Walnut Street.

ABSTRACT OF DISCUSSION

DR. GEORGE E. DE SCHWEINITZ, Philadelphia: Although Dr. Ziegler only now publishes this detailed account of his operation, he gave a description of it in 1896 in one of the editions of my text-book. I mention this in order that Dr. Ziegler may have full credit for an early record of this ingenious operation. My experience with the operation has been limited but entirely satisfactory. I have found it more satisfactory and less dangerous than iridotomy or iridectomy. I call especial attention to the necessity of a properly constructed knife, as the ordinary knife-needle used in discission after cataract is not a satisfactory instrument for this operation. I have not employed this operation in uncomplicated after cataracts, as for them I still consider Knapp's knife-needle operation the best one. Ziegler's operation is more satisfactory for complicated after-cataract and closed pupils following iridocyclitis and thick membrane remaining after needling

of some congenital cataracts. I consider that the operation has a wide field of usefulness.

DR. C. H. WILLIAMS, Boston: I think that we shall sometimes be disappointed in the amount of opening we finally obtain after operations on the iris for artificial pupil, especially where there is a membrane of inflammatory deposit behind the iris. I had a case which illustrates the need of a large division in order to obtain a serviceable pupil. A sea-captain of 70 years came to me with a history of repeated attacks of iritis in each eye. There had also been some cyclitis in the left eye and in that eye there was not even perception of strong light.

In the right eye an iridectomy had been done some time previously for closed pupil, and the patient had good light perception but nothing more. A cataract having developed in this right eye, it was finally decided to make an extraction, which was done without special difficulty. After the extraction the pupil gradually filled with a whitish deposit and the iris was drawn upward to the corneal cicatrix, the vision being again reduced to perception of light. Four months after the extraction, the eye having become comparatively free from inflammation, a division of the iris and the membrane behind it was made by passing a Graefe knife through the upper part of the cornea directed toward the center of the eyeball, so as to penetrate the iris and membrane. De Wecker's scissors were then passed into the wound and a cut was made from above downward to within about 3 mm. of the lower part of the iris, which resulted in a cat's-eye pupil through which the patient could see to play cards for about one month.

After this, the pupil became blocked by a whitish deposit beginning at the lower part and extending upward. Five months later a second attempt to make an artificial pupil was made by passing the Graefe knife through the outer edge of the cornea and following this by three cuts with the De Wecker scissors, one horizontal, one upward and inward, the last downward and inward. This resulted in a stellate-shaped pupil of good size. After a time the same process as before began to fill up the pupil, but it only went so far as to fill up the stellate rays, leaving the center of the pupil free, and the patient now has, with his correcting glasses, vision of 3/10 and can read ordinary newspaper print.

DR. EDWARD JACKSON, Denver: I have been familiar for years with Dr. Ziegler's work. When I was at the Wills Eye Hospital fifteen years ago, and before that I had followed in the main the mechanical methods that he has followed. No one who has not tried such an operation in difficult cases, such as Dr. Williams has mentioned, can realize the wide applicability of the method. I am sure that within the last ten years I have not used the de Wecker scissors in any case, and in some that looked quite as bad as the one Dr. Williams has spoken of I have obtained a good pupil with comparative ease. In reference to gaping of the opening, to which Dr. Ziegler alludes in his paper, it is absolutely essential that the two incisions meeting at an angle shall come together. If there is the least little shred of tissue left, it holds this tongue of iris and membrane in position, and you fail to get a good pupil. If your knife is sharp enough, there is no need for any more than the minimum amount of pressure. The tougher membrane will require the sharper knife and will require longer sawing, but if you carefully observe the mechanical conditions very tough membrane can be disposed of in this way. Leverage is of great importance. You should at least have a leverage long enough to maintain its proper relation to the incision in the membrane. Its best relation is pretty nearly perpendicular. By going into the limbus you get the longest leverage.

DR. JOHN GREEN, JR., St. Louis: Occlusion of the pupil consecutive to severe iridocyclitis after combined extraction usually presents a membrane occupying the site of the original coloboma. If in such a case the margin of the upper lid, in distant fixation, does not encroach appreciably on the cornea the following procedure is applicable: A keratome with the tip directed toward the center of the globe is made to penetrate the membrane exactly at its junction with the iris tissue. A very narrow Graefe knife with the cutting edge forward is then made to divide the lateral bands at their junction with the iris tissue. The resulting pupil is usually circular. My belief is that, when possible, we should avoid additional operative traumatism to the iris tissue which has shown itself so prone to react to injury.

DR. ALBERT E. BULSON, JR., Fort Wayne, Ind.: I have used two knives of Dr. Ziegler's pattern, according to his method, in three different cases, with excellent results, but it is my opinion that the knives should always be of proper form and in perfect condition as to cutting edge and point or otherwise the operator will be disappointed in his results. The shank in particular should be in proper shape and not taper if loss of aqueous is to be avoided. A Ziegler knife with a sharp cutting edge will permit of incision through a rather tough membrane without traction. The knife is also an ideal one for the ordinary operations for secondary cataract.

DR. M. WIENER, St. Louis: I have used this excellent operation for the last few years and found it better than any method I have used previously. One class of cases in which I found difficulty was those with very shallow anterior chamber and lowered intraocular tension; and another in which we have anterior synechia, the iris attached to the cornea irregularly.

I should like to ask Dr. Ziegler what he does in these conditions. If there be only one spot where it is attached, by a sweeping motion it can be detached before the V-shaped incision is made. I have found that I can get along a little better by having the blade a little shorter than the one used by Dr. Ziegler. I had some knives made with the blade about two-thirds the length; in other respects the same.

DR. S. L. ZIEGLER, Philadelphia: The reference which Dr. de Schweinitz has so kindly made to his success with this operation in cases of membranous occlusion of the pupil leads me to believe that his adoption of this method for all of his cases of capsulotomy is only a question of time. The V-shaped incision is undoubtedly the best one for securing a satisfactory opening in any type of membrane, whether thick or thin. The incision can, of course, be placed in any part of the membrane and in any direction that you may wish to locate it. I do not believe there would be the slightest difficulty in securing good results in the cases Dr. Williams describes. I am sure that such drawn-up iris membranes will easily yield to this operation. The first case I present in my paper illustrates this condition exactly. The second case was a similar one, the membrane being very dense and the eyeball soft. In both cases the operations were successful, and the results have been permanent. Of course, you do have failure in these cases by the older methods. If the operation is properly performed, however, there can be no pressure and no traction. In fact, I explicitly state in my paper that both pressure and traction must be avoided, or failure will surely result.

One of the chief causes of failure in all methods of iridotomy has been the single incision, which is so liable to close up. We must make a double incision. The V-shaped cut has proved to be the most efficient in my hands. The ultimate shape of the pupil formed by the V-shaped method depends almost entirely on the degree of stiffness or resiliency present in the iris membrane.

Anterior synechiæ may be successfully freed with this form of knife-needle. In the cases to which Dr. Wiener refers a little shorter blade might be better, because of the cramped position. For the long sawing incision of the ordinary case of iridotomy, however, I consider this model of knife-needle just about perfect. Dr. Wiener also asks as to the degree of success in soft iris membrane. Case 3 is one of iris bombé in a soft eyeball, and well illustrates this condition. This membrane followed glaucoma and iridochorioiditis. I was able to make an incision in it which opened the pupil even wider than I cared to have it. This operation should not be condemned because the first trial results in a failure. On the contrary, the V-shaped method should be studied and practiced until the failures are practically nil.

THE PROPER METHOD OF DETERMINING ERRORS OF REFRACTION

AND THEIR ACTUAL RELATION TO THE AILMENTS OF THE HUMAN BODY

D. B. ST. JOHN ROOSA, M.D., LL.D.
NEW YORK

Although I think that there is a general agreement among ophthalmologists as to the principles and practice of adjusting glasses to the human eye, there are few, chiefly in this country, who with very little intermission vociferously protest that most methods except their own are imperfect, or even altogether wrong. One writer goes so far as to say that there are no schools of instruction where determination of the refraction of the eye is properly taught and that dire consequences are resulting from this circumstance and from the wrong methods of ophthalmologists in general.

EXAGGERATED VIEWS OF THE RESULTS OF EYESTRAIN

The constant appearance of articles written in this strain, with exaggerated statements as to the consequences of wrong methods, the almost frantic appeals from these writers that eyestrain shall be more correctly studied and treated, induce me again to ask the indulgence of general practitioners, and perhaps some of the younger ophthalmologists, while I present what I conceive to be safe and sane views on this subject. These views I also believe in the main are those of the majority of ophthalmologists, and the practice of which are accomplishing about all that may be properly and reasonably expected from the use of glasses to correct errors of refraction or weakness of accommodation (presbyopia).

The general practitioner, I am sure, is anxious to understand in a general way what are the limitations in the efficacy of glasses for symptoms that are not obviously those pertaining to clear vision and the regular and continued use of the eyes, and he finds widely varying opinions as to the therapeutic value of glasses and the proper method of choosing them.

There are a few ophthalmologists who consider that many general morbid conditions of body and mind result from the non-use or improper use of glasses. Ophthalmologists in general find in glasses a remedy for ocular defects only, and believe that the benefits of glasses are chiefly and generally limited to the correction of ocular defects. The hopes of those who found in the correction of hypermetropia and astigmatism, whether existing singly or in combination, a remedy for any class of nervous disease have had the same disappointment as was shown very long ago.

Properly chosen glasses will often relieve headaches that may be easily traced to excessive use of the accommodating power, certain forms of chronic conjunctivitis, blepharitis ciliaris, mild forms of lachrymal catarrh, diplopia, vertigo and nausea, coming on after continued use of the eye, at a play or at a musical concert or visit to a picture gallery, for instance. This, to my mind and experience, comprehends about all that may be expected from the use of glasses. It is still thought by a few observers that migraine is often relieved by proper correcting glasses, but this belief I do not share, and I have made innumerable efforts to relieve migraine by such means and finally have abandoned them. Certain ophthalmic writers in this country assert that failure to relieve migraine and more serious affections of the nervous system is due to a want of proper choice and adjustment of the glasses, although the authorities who have reported such failures are adjudged by the profession to be competent oculists.

THE ART OF FITTING GLASSES NOT OF SUPERHUMAN DIFFICULTY

Even more radical statements than these are made, namely, that few ophthalmologists in the whole civilized world know how to fit glasses properly.

To this style of argument, which, strange to say, finds a place in respectable medical journals in this country, it is scarcely possible to give a serious reply. Since these views get a wide circulation in the profession, to leave them unanswered is to leave them to be considered unanswerable by some. I undertake to present another view from this. I do not think that the science and art of choosing glasses correctly is as difficult as in certain quarters it is said to be. Any well-educated medical practitioner, by careful study and large experience, such as is obtained in special hospitals and clinics, may expect in a few months to be able to fit glasses to the eye properly, and also to eliminate those cases in which glasses will be of no service, provided this experience is begun with a fairly critical knowledge of optics and the various errors in the refraction of the eye, as first formulated by Donders. There is no special difficulty in the attainment of this knowledge, any more than there is in becoming an expert in auscultation or percussion, or a bacteriologist or pathologist. In short, there is no more difficulty in becoming an expert in this department than in any other of our science and art. The erroneous opinion that only a few have ever accomplished this is one that is widely promulgated by a very few ophthalmologists.

In the nature of things, the acquisition of the knowledge necessary for the practice of the correction of errors of refraction can hardly be originally and intrinsically so difficult that only a very few of the well-educated practitioners of the wide earth can ever acquire it. One of the grounds given in one quarter for the belief that the knowledge necessary to the adjustment of correct glasses is such an intricate and difficult thing to acquire is that so many errors fatal to the success of getting the proper glasses are fallen into, even by those of special education and experience, and that thus the results are entirely unsatisfactory. Such a view as this almost involves the idea of divine or demoniacal inspiration as necessary for the proper practice of this part of ophthalmology. But this is an utterly incorrect and even ridiculous view of the situation, and a few obvious facts controvert it.

Before Donders' discoveries and his classification of ametropia into hypermetropia, myopia, corneal astigmatism, either myopic, hypermetropic or mixed, with failure in accommodation and presbyopia, which reached the English-speaking profession in 1864, the civilized world got on with imperfect concave and convex spherical glasses chosen usually by the patient with the assistance of the vendor, who had only the most rudimentary knowledge of optics. Indeed, scientific men, with a very few exceptions, such as Thomas Young, possessed only a rudimentary knowledge of the refraction of the human eye; yet in those centuries on centuries of civilization in which no accurate fitting or correcting of glasses existed, when men and women probably had the same errors of refraction as now, Greek, Roman, French, German and English literature and art reached a high

point, great pictures were painted, statues, sarcophagi and bas-reliefs were sculptured and temples and cathedrals were built which are still copied and admired, poets wrote verses and statesmen demonstrated great principles, warriors fought and lost and won, and even science was not destitute of mighty chemical, astronomical and physical discoveries.

I adduce these well-known facts simply because within the past few years interesting volumes have been published by a well-known ophthalmologist in which the lives of such writers as Carlyle and Darwin have been detailed to prove that they were sadly handicapped on account of the want of correction of their errors of refraction. If this is true of the few whose careers are fully recorded, the same is likely to be true of David, the Psalmist of Israel; of Homer and Horace and Virgil; of the statesmen, warriors and artists of all past time, who were equally without the benefits of proper glasses; but history gives us no trace of such sad results from the want of the optical discoveries of the nineteenth century. History gives here and there an example of a great handicap like the myopia of Gustavus Adolphus, who mistook the enemies' ranks for his own and fell in battle because his eyes were not properly fitted with correcting glasses. In our own time Turner was said to have reached some of his great effects because he suffered from uncorrected astigmatism; but in general, in spite of literature adduced to prove the opposite, the human race avoided general and widespread idiocy, indigestion, torticollis, chorea and epilepsy even without proper or any correcting glasses.

It is not true, however much they may fall short of clear and painless vision, that most members of our race are seriously affected in mind or body unless their refractive errors or their presbyopia are exactly corrected. In the adjustment of glasses for the purposes of vision there is a range of considerable degree between the glass that would be chosen by an expert examiner and that chosen by one of less experience which may very often be used without detriment to the wearer's health. Those who do not use their eyes in occupations requiring the most exact vision possible can, for example, get on in reading with a simple spherical glass, whereas an examination may show that the individual has a corneal astigmatism of one-half diopter. In such cases, if the eyes be used very much and in exact work, there is less danger of asthenopia and the person is able to read and write or work at an exact occupation like that of a seamstress or an artist, if the error be corrected; and yet, as I have just said, the persons with less exacting occupations, though using the simple spherical glass, will get on very well and will not suffer from asthenopia and nervous or other physical affections.

This is contrary to what is taught by those whom I venture to call radical ophthalmologists. They insist that if each human eye be not exactly fitted with mathematical correctness, or as nearly so as the present state of ophthalmic science admits, dire results will follow, not only in inability to use the eyes for a normal period, and, what is far worse, in serious general diseases of one variety or the other which may ruin a life. While the importance of the exact fitting of the eyes with glasses is greater as a rule among patients of high education and critical minds, with exacting pursuits, even among them it is often interesting to be seen how well some of these do their work without being accurately fitted, and that nothing detrimental to their general health results.

Life is full of illustrations in other departments of human effort that demonstrate the truth that good results may be obtained with imperfect means. Sometimes a mechanic with poor tools will accomplish that which will put to blush a workman with fewer mental resources but with much better outfit, and a young fisherman with a rod cut from an adjacent tree will sometimes be more successful than an angler with the best rod and the most attractive of flies. This does not at all prove that the best apparatus is not to be desired in every department, either of sport or work in life, but only that results do not always depend on the kind of gun but on the man behind the gun.

THE EMMETROPIC EYE ONLY NOMINALLY NORMAL

This leads me to say that it is not always possible to create ideal or correct vision for all people, even if they have nothing that is, strictly speaking, a disease of the eyes to prevent. This may seem an astonishing proposition, but it is, nevertheless, I think, a true one. Some writers have assumed that the normal eye is the emmetropic one, and that in prescribing correcting glasses a cycloplegic should always be used, and that the eye with a high degree or low degree of hypermetropia should be converted into an emmetropic one by the proper glass. In practice this system does not work well, patients being usually intolerant of complete correction of hypermetropia. It was necessary when Donders gave to the world his great work on errors of refraction and accommodation, since the subject was almost an entirely new one, that he should lay great stress on the emmetropic as the normal eye, but I find no warrant for the doctrine that a low degree of hypermetropia, one to two diopters, for instance, should be under a cycloplegic made emmetropic with glasses. A great many persons accommodate their eyes to one or two or more diopters of hypermetropia without the slightest inconvenience until the age of 40 is reached. The emmetropic eye remains the normal eye in name only, just as a perfectly symmetrical human body is also ideal.

Hence the advice given by some ophthalmologists that every child should have his or her eyes examined for glasses on entering school life is utterly absurd and should not be heeded, for unless the child complains of the eyes, or is observed not to see well, no examination is needed. We might just as well advise that every child have the stomach washed and have a test breakfast to ascertain if that part of the digestive apparatus is in working order. Furthermore, should we place every child under a cycloplegic and correct all errors mathematically, as foolishly advised in some quarters, fully 999 children out of every 1,000 would be wearing glasses. The charlatan and eyeglass faker himself could not give more interested advice.

The average human body will do all the work of life as well as would an Apollo Belvidere. An eye of a moderate degree of hypermetropia without corneal astigmatism, other conditions being favorable, will do its work in a thoroughly satisfactory manner. Myopia is essentially a diseased condition of the eye, and the stretching of the globe even in a moderate degree may cause pain and inconvenience when it is in use, or even when it is not; but with a low degree of simple hypermetropia, which is only at the most incomplete development of the eyeball, asthenopia, is very uncommon. Most children are born into the world hypermetropic. If the two eyes are hypermetropic to the same degree, and there is no astigmatism or other defect, part of the

hypermetropia disappears with advancing years and the development of the globe, and the owners are in a vast majority put to no inconvenience on account of their eyes. The great error that was made by those who for years laid great stress on errors of refraction as causing epilepsy, chorea, and even idiocy, was in assuming that a low degree of hypermetropia was a refractive error requiring correction. It was very soon shown that thousands of human beings were hypermetropic without having nervous disease. The field of abnormal refraction is actually not entered as far as hypermetropia of a low degree is concerned. It is not reached unless it is of a degree higher than, for instance, two diopters, or unless corneal astigmatism is added to it.

It is an interesting fact that Jaeger the younger, professor in Vienna, who did some of the first and best work with the ophthalmoscope and in illustrations of the fundus oculi, taught that myopia was the usual, if not normal, refraction of infants. The work of my assistant, the late Dr. Edward T. Ely, showed that hypermetropia and not myopia is the usual refraction of the newly born.

CAUSES OF ASTHENOPIA

It is established now, as Donders thought in his first promulgation of his classification and the means for its relief, that in the refraction, in the static condition as he defined it, is to be found the cause of asthenopia and not in the external muscles. Here only do I find myself at variance with many writers of this country. I deny the existence of muscular asthenopia, except as dependent on errors of refraction, standing by my views expressed in 1890.[1] I do not find any value in prisms or in decentered glasses, except in cases of paralysis of the ocular muscles, and for years I have not prescribed them, except as above indicated. I think them of no value except in actual paresis. In astigmatism I find the great source of asthenopia and imperfect vision in cases of error of refraction. While in hypermetropia in young subjects, of a degree sufficient for correction with no astigmatism sufficient for correction, we may expect a diminution of the hypermetropia; this is not the case in myopia, which generally becomes of a higher degree until adult life is reached, although in subjects of advancing years it is by no means an uncommon thing, contrary to what is sometimes taught, to see myopia steadily decrease in degree from 50 years or more on, so that weaker glasses may be worn. This is due in part to flattening and hardening of the crystalline lens.

In passing it may be said that it is now pretty generally conceded that full correction of myopia is best for the comfort and safety of the patient. To see as well as one can is always desirable, and I have no fear, like that so often expressed among the laity, of having glasses too strong, either in myopia or hypermetropia, so long as those chosen give the best vision. If they secure this and the patient complains of pain, it may be assumed that the pain is not from the wrong glasses but from the eye itself.

It is well known that morbid conditions in the cornea are very common in myopia. The habit of many patients with unsatisfactory vision of going about from one authority to another, seeking to relieve their ocular discomforts by a change of glasses, is greatly to be deprecated. When glasses are so frequently changed the fault will sometimes be found in the oculist who ventures on treatment as suggested and yields to the wish of a neurotic patient to have an infinitesimal change made. I do not believe that a difference such as a quarter of a diopter will make any essential difference in the vision of a patient, and especially not in his ability to use his eyes without headache or other asthenopic symptoms. The army of neurasthenics and other neurotics who form such a considerable portion of our people both among the lofty and lowly, by their undue influence on the profession, have worked great harm in lessening the number of safe and sane ophthalmologists. The late Dr. George M. Beard, who first employed the term neurasthenia, as I know from an intimate acquaintance, when he invented the term never dreamed that its application to human maladies would be so amplified as we find it now. This amplification may be entirely justified and may not, but the not uncommon suggestion that eyestrain is at the basis of neurasthenia really means that endless nervous symptoms are produced by want of balance of eye muscles. Unprejudiced judicial examinations made by thoroughly educated and widely experienced men, in my opinion, show the belief that eyestrain causes neurasthenia to be incorrect.

What I believe to be almost infallible evidence against the existence of eyestrain in a given case is the absence of ocular symptoms. If there is a symptom reflected from the eye there will always be found a condition in the eye to justify such a reflex affection; there will be watering of the conjunctiva or of the lachrymal sac, inflammation of the edges of the lid, hordeola, inability to use the eyes, sensations of sand in them, headache on use of the eyes; in short, before there is eyestrain there is always some symptom in the eye itself.

It is not true, I think, that imbalance of the ocular muscle or an uncorrected error of refraction causes a disease in another part of the body unless morbid conditions and symptoms can be found in the eyes themselves. Then abnormal conditions, such as mixed or double astigmatism, may exist, and while they are the cause of defective vision, they may beyond that have no effect on the general system. I have seen patients recover from such an affection as chorea and other forms of nervous disease without having had any correction of errors of refraction of a disturbing kind.

Indeed, I think that most of the very modern literature on eyestrain which ascribes almost any manner of disease to the eyes is highly illogical and scarcely supported by facts; but it will not be long before its true character will be found out by the disappointed neurologist or general practitioner who had expected a cure of organic disease by a correction of the imbalance or of an error of refraction.

I have seen many patients constantly wearing glasses which reduced their visual power considerably, having been told to persist in their use, for the glasses would finally work a cure for their various general symptoms. The fact is that if glasses do not improve the vision and are not comfortable on the eyes they are absolutely of no use. There is no mysterious virtue in them, if they do not at least clear the vision, and if they are not comfortable when worn.

Eyestrain, so called, as determined by the measurement of the power of the constantly varying power of the external ocular muscles has been, in my judgment, greatly misused in diagnosis. If the profession will abandon all attempts to measure the power of the ocular muscles, except in paresis and consequent diplopia, and confine the work of fitting glasses to correction of errors of refraction, myopia and hypermetropia, with the co-

1. Ophth. Rev., October, 1890.

existent astigmatism, ophthalmologists will not suffer the opprobrium that once attached to the men who found in the ovaries and movable kidneys all the diseases of the female system. In my opinion, it will not be many years before no diseases except those clearly recognized in the early years of the specialty by the ophthalmologists who follow Donders and Graefe, as coming from errors of refraction, will be deemed to result from errors of refraction or imbalance. All the indications are that way, for we have passed through the day when it was believed that in the correction of eyestrain by glasses or by operation on the ocular muscles was found a remedy for epilepsy and chorea and idiocy. Migraine and neurasthenia will soon cease to be treated through the muscles or refraction of the eye. No one except a few extremists with no following, men who can no longer get a hearing in an ophthalmological society, find in errors of refraction and their improper correction every imaginable disease, mental and physical. The community in general has been so stirred that great numbers of people talk of eyestrain as if it were the cause of all their ailments. They come into our consulting-rooms with the firm conviction, in many cases produced by the family practitioner, that if the muscular balance can be restored by the proper glass, all their aches and pains will vanish.

THE PROPER USE OF TENOTOMY AND PRISMS

The practitioners who lay so much stress on the restoration of the muscular balance have grown a little shy of graduated tenotomies and of all operations on the muscles. Yet in cases of diplopia or want of binocular single vision a complete and thorough operation on the offending muscles (provided the operator is sure to operate on both of the fellow muscles) will now, as always, accomplish all that can be desired in the relief of ocular symptoms. It is the indiscriminate operations founded on fallacious tests of the power of the muscles that have done the harm. Very satisfactory results are obtained from tenotomies in properly chosen cases, especially if the Panas method is followed, stretching of the muscles being practiced in combination with the tenotomy, and both muscles being operated on at the same sitting.

Cases of insufficiency or diplopia requiring prisms for their correction, in my judgment, always require tenotomy, if the asthenopic symptoms are sufficient to be disturbing. It seems to me always better when the properly chosen spherical or cylindrical or a combination of these glasses do not afford relief, as they will in many cases of diplopia, to operate than to delay, and above all not to subject the patient to frequent changes of glasses, in the vain hope of finding those that will accomplish a result, after those have been tried that answer the test of a critical examination. Such a practice is to be likened to a looking about in the medicine-chest for a medicine to cure an undiagnosticated disease. Indiscriminate tenotomy has been generally given up for the cure of these cases of muscular insufficiency, but there still exists a want of appreciation of what I have long since shown, namely, that since there is so great a variation in the power of these muscles in persons who have no asthenopia, we can not conclude that these patients with lessened power or variations in power demand any treatment of the muscles except that which they undergo in the correction of the error of refraction or in that of the general health—for there is a neurotic asthenopia.

The treatment of the ocular muscles by systematic exercise with prisms has, I think, been pretty generally abandoned, as it deserved to be, except in cases of strabismus, in which the stereoscope is very useful and even essential after tenotomy in the effort to secure binocular single vision.

DETERMINATION OF THE REFRACTION

Although for some years previous to 1888 I had nearly given up any use of prisms in glasses prescribed for asthenopia, it was in that year, after the perfection of the ophthalmometer by Javal, that I also definitely gave up the use of a cycloplegic in the determination of the errors of refraction and the prescription of glasses, except in those rare cases of spasm of the accommodation. In 1876,[2] in a paper on blepharitis ciliaris, which I showed to be very often the result of an error of refraction, I was one of the very first writers, if not the first, to insist on the use of atropin or other cycloplegic for the positive determination of the degree and nature of an error of refraction. My attention was first called to the causation of blepharitis ciliaris by a severe case of error of refraction from instilling atropin and paralysis of the accommodation which had lasted for years in spite of the ordinary treatment. The improvement of the patient's appearance was so great in twenty-four hours that I believed I would find in a proper correction of the refraction a relief from the troublesome inflammation. This proved to be so, and caused me to test every patient of this kind for glasses. This I did while the eye was under the influence of atropin, but with an exact measurement of the degree of corneal astigmatism I no longer find the cycloplegic necessary. If, however, a case of severe blepharitis ciliaris be found, it is still good therapeutics, if the disease is very annoying, to get the eye quiet and the lid free from redness by the instillation of atropin three times a day. It was then, and remained for several years, my almost invariable practice to use atropin in all cases that were not presbyopic before prescribing, and I know that this became the ordinary practice in the Manhattan Eye and Ear Hospital, where I was then an attending surgeon. This is a troublesome, tedious and even distressing practice for the patient; for the oculist it is also very tiresome and monotonous.

Since there was no other way, however, as I then supposed, for the determination of the degree of astigmatism, mixed or simple, and of the hypermetropia, with what proved to be only a bogey spasm of accommodation always before me, I persisted in it. But when Javal and his student and formerly my own, George J. Bull, showed me the precision and ease with which the perfected ophthalmometer would measure corneal astigmatism, and when I had learned from Bull how to use the instrument, I saw that in my practice, at least, the use of a cycloplegic as a means of determining the refraction was ended, for it was just to ascertain the existence of corneal astigmatism and its degree that the atropin or other cycloplegic was used. With the perfection of the ophthalmometer dawned a new era in ophthalmology. What Helmholtz labored for and accomplished only in a very poor way with an instrument difficult to use and altogether consuming too much time to be of use in the consulting room and only fitted for the laboratory, Javal accomplished in a perfect manner, for which he should receive everlasting praise. On my

2. Tr. Am. Ophth. Soc.

return to New York I brought the ophthalmometer into use in the Manhattan Eye and Ear Hospital, where it soon totally displaced the use of cycloplegics and the practice of retinoscopy for the determination of refraction. Although Javal's instrument was well known to a few ophthalmologists of America, Swan Burnett having exploited it in his work on astigmatism, and Noyes having demonstrated the method of use, it was not, strange to say, generally used except as a scientific toy, but it gradually commended itself to very many. I persuaded Mr. Georgen, the optician, to make ophthalmometers in this country, which he did in the very best manner and at a price as low as that for which they could be obtained in Paris, so that they became generally accessible. After him came Meyrowitz, who continues to make the ophthalmometer on Javal's latest model—that of 1907. This is not sensibly different from that of 1888, but conveniences have been added to the work of adjustment in the steadiness and precision of the instrument by A. E. Davis, Dennett, Skeel and others. The work, however, was done in 1888; the egg was made to stand upright when an ophthalmometer was presented to the profession which enabled an expert to measure the radii of the cornea in three or four minutes. With me it did not displace retinoscopy, for I had already fairly tested this ancient method of determining the refraction, and, largely counseled by the late Dr. E. G. Loring, I had abandoned it as "the most difficult and least satisfactory of the methods of determining the refraction of an eye, which contributes nothing that can not be more easily and more expeditiously performed by the upright image."

Before leaving this subject of determining the refraction of the eye I may be pardoned one word in deprecation of the use of the phrase, "to refract an eye." This is quite frequently used instead of the longer but correct term, "to determine the refraction of the eye." It is to be earnestly hoped such a barbarism as "how to refract" may speedily be abandoned by all who have any desire for the preservation of the purity of the English tongue.

With the ophthalmoscope, the ophthalmometer and the test types we have all the means, in my judgment, that are in any sense required for the work of selecting correcting glasses. It is only in exceptional cases, in which spasm of accommodation exists, that a cycloplegic should be used. The ophthalmologist of experience, with these instruments, with patience and care in his subjective and objective tests, will at the most in two or three sittings, be able to say positively, even in the most tedious cases, when the axes of greatest curvature are not vertical or horizontal but oblique and differing in the two eyes and when there is mixed astigmatism. All this in an unintelligent patient makes a trying combination, but experience and patience and skill will finally accomplish a perfect result.

In high degrees of corneal astigmatism there are patients who at first, perhaps for months or even years, will not be able to tolerate glasses with full correction; but knowing exactly what full correction is, and having the patient under observation, the oculist can make a change whenever the patient becomes able to tolerate the glasses theoretically adapted to the refraction of the eyes. The objection to this method has been often made by one writer that the determination of the corneal astigmatism by the ophthalmometer is a method with a machine. This is to me an absurd criticism. Some of the best work in science is done with a machine. The sextant also is only a machine, but with a clear sky and a mariner of learning and experience behind it it does not fail to determine the location of the ship. Thus we might go on: the urine is examined with a machine, the blood count determined by a machine.

Fortunately, the use of the ophthalmometer is easily learned. With a good teacher, in two weeks' daily practice, a man at all skilled by education and experience in other manipulations and observations will be able to go on by himself, with a constant growth in the facility and exactness with which he can use this indispensable apparatus, for the ophthalmologist, Donders, left very little to be learned in the definition and description of the various errors of refraction and in affections of the accommodation, or in the affections likely to result from these uncorrected errors. Those who read his pages will learn that he anticipated almost all that has been said in the text-books and monographs on refraction and accommodation since his great treatise, except in regard to the measurement of corneal astigmatism; and this gap was filled by Javal and Schiotz. There is now no department of our science and art that can be more satisfactorily practiced than that of determining errors of refraction and of fitting glasses to the eye.

It is because so much is published in the medical journals on the immense difficulties of this art, which usually remains uncontradicted, that I have taken the risk of telling a twice-told tale. It may be of service, especially to those who are at the beginning of the practice of ophthalmology, to know that there remains a large class, of which I am a member, who adhere to the belief that the proper correction of an error of refraction is not exceedingly difficult to learn to practice, and who also still believe that no grave constitutional lesions depend on such errors. Those that are well known, most of which were described by Donders fifty years ago, such as headaches, blepharitis conjunctivitis, lachrymal catarrh—in short, asthenopia in its varied forms with imperfect vision from optical defects, the correction of which is the chief function of glasses—still remain easy of correction by a practiced hand. The proper functions of the human body do not altogether depend on the eye, however much its untrammeled and perfect use adds to our capacity for work and happiness. To this assertion may be added the statement that, after a thorough trial of tenotomies and prisms for the so-called imbalance of the eye, I have no use for them except in the unusual conditions of diplopia and strabismus and paresis already noted.

THE FAUCIAL TONSILS; A PROCEDURE FOR THEIR COMPLETE EXCISION*

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CHICAGO

Surgical operations which excise diseased tonsils completely are gradually replacing the hasty and uncertain manipulations with the tonsillotome and other implements which are apt to leave the base of the tonsil in the throat, experience having shown that such tonsillar remnants may contain tubercle bacilli, are prone to inflame, to hypertrophy, and to be the source of repeated peritonsillar abscesses.

Dr. Charles M. Robertson was one of the first to advocate a complete excision of the tonsil, and his demonstration of his scissors operation in the American Med-

* Read before the Southwestern Kentucky Medical Association, Paducah, May 12, 1908.

ical Association in 1903 has done much to make tonsil surgery more radical.

In this paper I explain a knife-dissection technic for the complete removal of the tonsils adopted as my uniform operation after a trial of many methods. Its description is preceded by an outline of the anatomy of the tonsillar region, a brief recital of the indications for extirpation of the tonsil and reasons for abandoning imperfect methods of operating.

ANATOMY

The tonsil occupies a space called the tonsillar fossa, bounded posteriorly by the palato-pharyngeus muscle, forming the posterior pillar of the fauces or arcus palato-pharyngeus, and anteriorly by the palato-glossus muscle, forming the anterior pillar or the arcus palato-glossus. Inwardly the anterior pillar thins to a delicate, thin-edged fold of mucous membrane, normally overlying the foremost part of the tonsil and called the plica

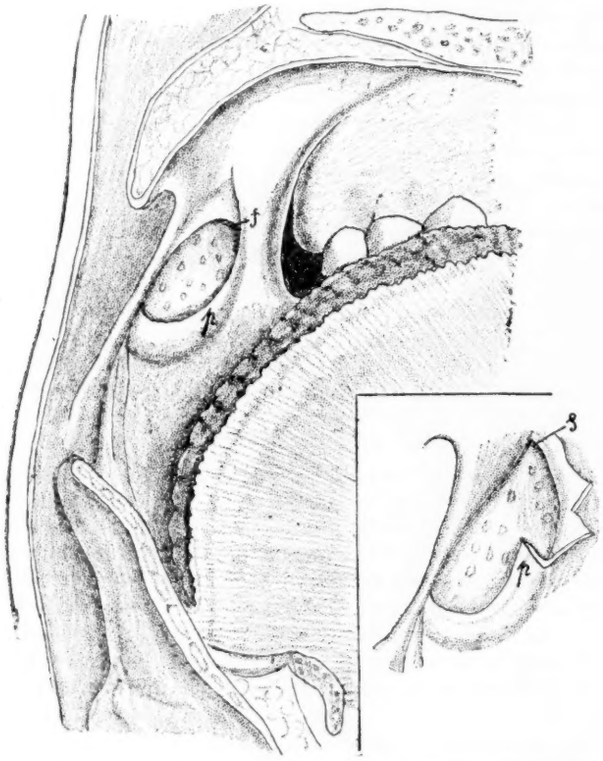

Fig. 1.—The tonsil seen from the side; f, entrance to the fossa supratonsillaris; p, plica triangularis. (Sketched from plate in Zuckerkandl's "Atlas.")

triangularis (Fig. 1, p). Above, to the extent of about the upper half of the tonsil, the plica triangularis is free so that a recess exists under it and it has to be pulled forward to uncover the anterior part of the tonsil. Below the upper half of the tonsil no recess exists under the plica, which is grown on to the tonsil in the form of a ribbon of mucous membrane. While hard to recognize in atrophic tonsils, in tonsillar hypertrophy the plica becomes very conspicuous, the tonsil, in enlarging, unfolding the plica triangularis and stretching it out as a broad band on its anterior and lower aspect (Fig. 5, p). Above, the pillars join to form a covering for the uppermost part of the tonsil, or velar lobe of Casselberry, so called because it extends up into the soft palate. Above the velar lobe is a recess of varying length and narrowness which extends outward and upward into the substance of the soft palate. This recess is called the fossa supratonsillaris (Fig. 1, f).

A number of crypts or follicles penetrate the tonsil, extending deep through its substance to its outer limits or capsule. The lower crypts lie horizontally, while the upper ones, originating in the fossa supratonsillaris, usually have a downward direction.

The outer aspect of the tonsil is attached to the tonsillar fossa and is usually encased in a fibrous envelope or capsule which may be well defined, merely indicated, or absent, some tonsils entering into the walls of the tonsillar fossa without definite boundary.

Externally the tonsil is usually loosely, but sometimes closely, attached to the fascia of the superior constrictor of the pharynx (Fig. 2). Outside of the superior constrictor lies the lateral region of the neck called the pharyngomaxillary fossa. It is filled with areolar tissue and is limited externally by the internal pterygoid muscle and internally by the fascia of the superior constrictor. The styloglossus and stylopharyngeus muscles traverse this space from behind forward and downward. Behind them lie the internal and external carotid arteries, which are thus fortunately situated too far

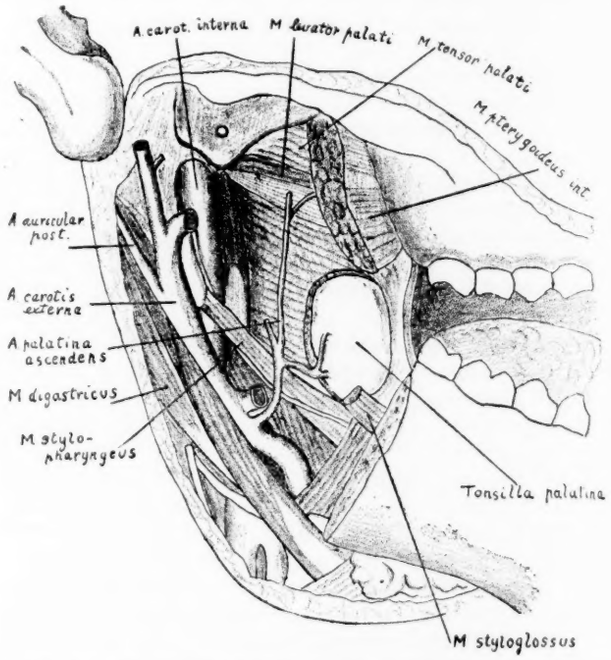

Fig. 2.—The external surface of the tonsil with its anatomic relations. (Sketched from plate in Zuckerkandl's "Atlas.")

behind and external to the tonsil to be endangered in operations for its removal (Fig. 2).

Dr. John Gordon Wilson[1] describes the ascending palatine branch of the facial artery as the main source of blood supply to the tonsil, the small tonsillar artery arising from it piercing the aponeurosis of the superior constrictor muscle and penetrating the tonsil in the deepest part of the tonsillar fossa. In Figure 2 the ascending palatine artery has an exceptional origin directly from the external carotid.

While the arteries of the tonsil itself are therefore small, the walls of the tonsillar fossa containing it have a rich blood supply, a number of arterial branches following the pillars upward and downward as a sort of vascular way. In accord with this distribution of the

1. Some Anatomic and Physiologic Considerations of the Faucial Tonsil, THE JOURNAL A. M. A., May 26, 1906, xlvi, 1591.

circulation it is my experience that an excision of the tonsil by a dissection hugging it closely seldom produces prolonged bleeding, while wounding of the walls of the tonsillar fossa is very apt to lead to it. For this reason cutting the pillars in excising the tonsil should be avoided and the plica triangularis should always be left intact.

PATHOLOGIC CHANGES INDICATING EXTIRPATION OF THE TONSIL

Hypertrophy appears in two forms. One is the well-known spherically hypertrophic tonsil, which lies superficially and projects freely into the throat from a shallow tonsillar fossa (Fig. 3). It varies in size from slight overgrowth to tumor-like masses which nearly fill the throat and seriously embarrass respiration.

The second variety of hypertrophy (Fig. 4) is the intramural or buried tonsil, which can not escape into the cavity of the throat as it grows because a close approach of the pillars of the fauces confines it to the tonsillar fossa, which it therefore distends and deepens. As they enlarge, buried tonsils force the pillars of the fauces inward toward the uvula until they nearly or quite touch in the center, the globular form of the tonsil underneath it causing the anterior pillar to bulge spherically. Palpation helps in the recognition of buried tonsils.

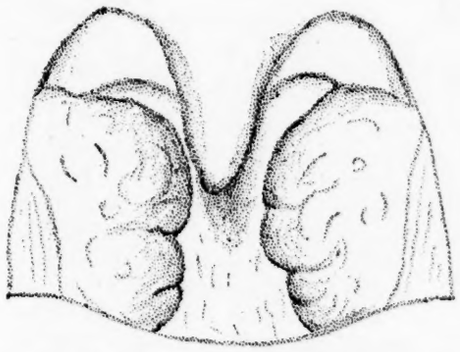

Fig. 3.—Typical projecting tonsillar hypertrophy; suitable for the tonsillotome.

According to its size the buried tonsil obstructs respiration. By distending the muscular walls of the tonsillar fossa it interferes with the fine adjustment of the soft palate and thus makes enunciation indistinct, and by pressing on the Eustachian tube from below it endangers the ventilation of the middle ear. Drainage from the crypts of buried tonsils is interfered with by the overlapping muscular pillars, a condition favoring the occurrence of peritonsillar abscess.

A third type of tonsil, commonest in childhood, and normal or nearly so in appearance, needs extirpation because of excessively frequent attacks of follicular or parenchymatous tonsillitis.

The fourth variety needing complete removal is the cicatricial tonsil. It is the most difficult of all to excise because of its small size, its commonly firm fibrous union with its bed and its hidden position under the anterior pillar. The cicatricial tonsil is one shrunken by chronic inflammation to a hard nodule, and is permeated by crypts frequently distended by cheesy contents and often dilated into hidden little pus pockets which discharge foul tasting secretion of which the patient complains. He often learns to empty these pockets by finger pressure. Occasionally the fossa supratonsillaris itself is thus converted into a chronic ill-drained abscess, from which the pus may be made to discharge by pressure on the soft palate above the tonsil. On account of this tendency to retain septic matter the cicatricial tonsil is the one most liable to produce a series of peritonsillar abscesses, and it is on account of these that the patient usually asks for its removal.

In other cases the cicatricial tonsil does not create abscesses but makes its presence felt during swallowing and speaking by causing pain and discomfort in the throat hard to locate, until compression of the tonsil between a finger in the throat and one behind the angle

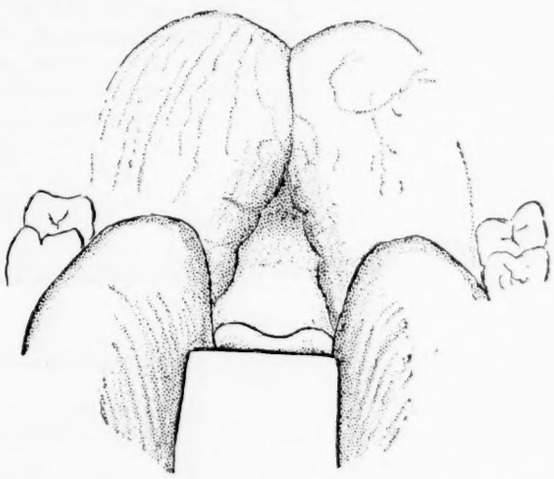

Fig. 4.—Extreme type of buried tonsils forcing the pillars together and hiding the uvula from view. The tongue is depressed until the epiglottis shows. (Sketched from life.)

of the jaw shows it to be the source of the disagreeable sensations, which disappear with its removal.

In some cases of cicatricial tonsil which I have seen the chronic inflammatory process extended beyond the tonsil into the pillars of the fauces, causing them to become thickened and persistently swollen, so that they nearly or quite hid the offending tonsil. This chronic inflammatory thickening looked superficially so like a tuberculous or syphilitic infiltration that in one case a

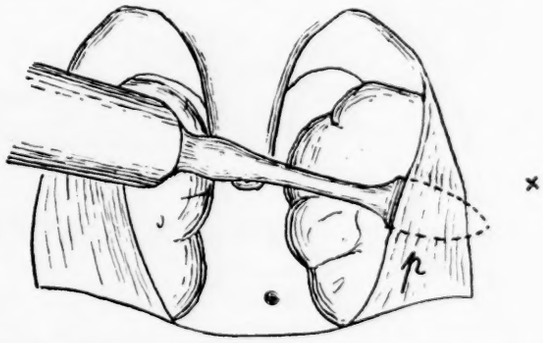

Fig. 5.—Dissection of the plica triangularis and anterior pillar from the tonsil with the pillar knife. The site of the submucous injection is marked with a star (*).

microscopic examination of an excised piece of the tissue was needed to make a diagnosis.

IMPERFECT METHODS OF TONSIL REMOVAL

The Tonsillotome.—If this implement be of a size to exactly fit over the type of tonsil which projects freely from a shallow tonsillar fossa (Fig. 3) it will sometimes remove it completely. The more the tonsil approaches the buried variety, however, the less of it is

included in the sweep of the blade of the tonsillotome and the greater is the danger that portions of the pillars will be drawn into the ring of the instrument and cut, with resulting serious bleeding. The tonsillotome has the defect of all automatic mechanisms designed to replace the intelligent work of simpler implements guided by the eyes and hand: it is only adapted to the one pathologic condition which was in its designer's mind when he devised it and it does not fit the endless deviations from this one condition met in practice.

The Cold Snare.—This instrument is also apt to leave much of the tonsil, especially the worst part, the velar lobe of Casselberry, in the throat, and the constricting wire not only creates a torn and bruised wound surface but, unless the tonsil be nearly dissected from its bed as a preliminary, it is apt to draw portions of the pillars and palate into the contracting loop and inflict ragged wounds in them. Inflammatory reaction lasting for a number of days, sloughs filling the tonsillar fossa, fever and foul breath have in my experience often followed the use of the cold snare, for the wire loop is a poor cutting implement and the torn wounds it creates have the usual tendency to infection and inflammation characteristic of tissues devitalized by blunt force. I know of an instance in which snare tonsillotomy done by a skilful colleague resulted in throat gangrene and death from ulcerative endocarditis.

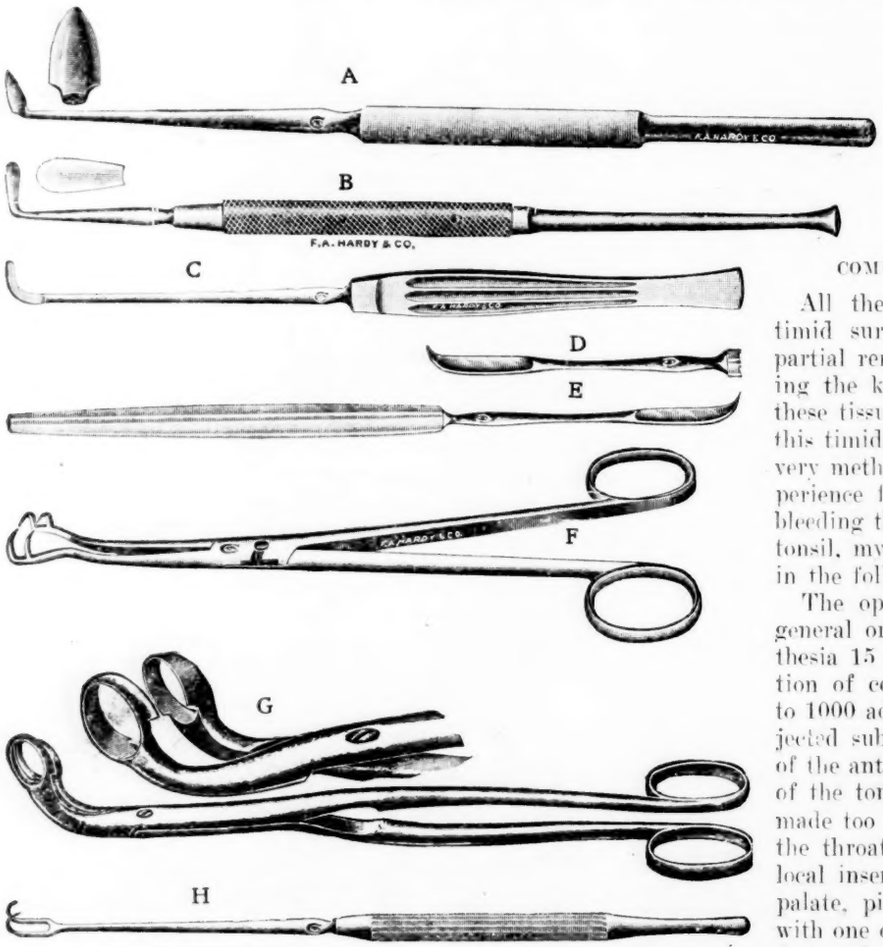

Fig. 6.—A, the Freer angular pilia: knife bent on the flat; B, narrow sharp pillar-separator; C, Tydings' sickle-shaped tonsil knife; D, E, the Freer Tonsil knives with blades curved on the flat; F, Casselberry's tonsil-forceps; G, Rhodes' tonsil-punch; H, double tenaculum.

The Cautery Snare.—The cautery snare does not draw in and tear the tissues as does the cold snare, but leads to a good deal of inflammation and fever. It is but little employed now.

Cautery Dissection.—This permits complete removal of the tonsil, but is apt to be followed by secondary hemorrhage, hard to suppress; the inflammatory reaction is greater than when a knife is used, and it is difficult to dissect accurately with this clumsy implement, so that the pillars are apt to be injured by it.

Cauterizing Follicles.—Attempts are often made to prevent the peritonsillar abscesses resulting from the cicatricial tonsil by slitting, or merely burning, its follicles with the cautery point in the hope of obliterating them, a process as tedious as it is unsatisfactory, for it is impossible to follow all of the crypts to the bottom; many do not close after being burned, and hidden ones are not reached at all, so that the failure of the treatment is often announced by a new abscess. The contracting cicatrices left after the cautery may aggravate the pain and dysphagia caused by a cicatricial tonsil.

COMPLETE EXCISION OF TONSILS

All the procedures mentioned represent timid surgery which is satisfied with the partial removal of diseased tissues, or, fearing the keen blade, burns and tears where these tissues should be cut. The reason for this timidity is the fear of bleeding, but the very methods it has suggested are in my experience far more apt to lead to prolonged bleeding than a neat surgical excision of the tonsil, my conception of which is embodied in the following description:

The operation may be performed under general or local anesthesia. For local anesthesia 15 to 30 drops of a 1 per cent. solution of cocain, to which a few drops of 1 to 1000 adrenalin solution are added, are injected submucously through the outer limit of the anterior pillar just outside of the base of the tonsil (Fig. 5). If the puncture be made too far inward the fluid will leak into the throat through the tonsillar crypts and local insensibility will not result. The soft palate, pillars and tonsils are next rubbed with one or two grains of pure cocain in the form of flake crystals in order to limit retching. In about five minutes after this the operation may begin and is conducted with the patient sitting upright before the operator or else reclining on an operating chair or table. The adrenalin insures a nearly bloodless field.

Where general anesthesia is employed the patient is placed in the lateral position of Ingals, lying on his side with the arm underneath drawn out behind his back so that he rests partly on his chest at the very edge of the table, his head lying on the cheek and being held strongly backward by an attendant. In this position the blood runs out of the mouth and does not enter the air passages. For excision of the right tonsil the patient lies on his left side and conversely the uppermost tonsil being the one cut out, so that the blood will

flow downward out of the way of a view of the operative field. I have not combined adrenalin injection with the general anesthesia, as collapse conditions have been attributed to its use under these conditions.

The table on which the operation is performed should be high, from forty to forty-eight inches, according to the stature of the operator, so that he can sit at ease during the operation. He must kneel, when a common table is used, in order to look into the patient's mouth.

For the illumination I use a Jansen electric head-lamp having a miniature light in a small cylinder with a condensing lens. The broad, bell-shaped head-lamps used by the general surgeon are unsuitable, as they leave the operative field in shadow, their rays being emitted at too great an angle to the axis of the eye to shine deeply into the throat.

The instruments used for the operation are a Kirstein tongue depressor; two dozen long swabholders; a gag, Allingham's preferred, used where the operation is done under general anesthesia; the Freer angular pillar knife and sharp narrow pillar separator (Figs. 6, A and B), the latter for small throats and little tonsils; a sickle-shaped knife bent on edge (Tydings) and having a sharp, not a probe, point (Fig. 6, C); the Freer tonsil knives for excision of the tonsil, with blades curved on the flat (Fig. 6, D and E); a Casselberry forceps for seizing the tonsil (Fig. 6, F); a Rhodes punch forceps (Fig. 6, G); two long slender double tenacula for holding the pillars apart where small tonsils are excised (Fig. 6, H).

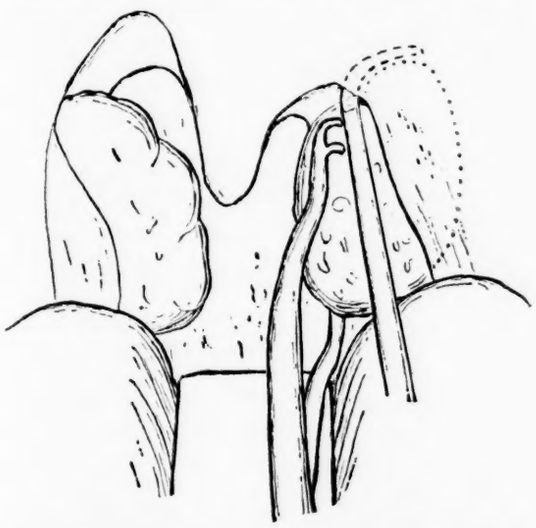

Fig. 7.—The tonsil is seized with Casselberry's forceps and pulled downward while the velar lobe, indicated by a dotted line, is dissected out with the Tydings' knife.

The first step of the operation is the dissection of the plica triangularis and anterior pillar from the tonsil, the sharp-pointed blade of the pillar knife cutting up and down underneath them until it has freed them entirely (Fig. 5). The pillar knife must be very sharp, as the tissues to be cut are often tough. The posterior pillar is then dissected from the posterior surface of the tonsil with the same knife or, if tonsils are very large, one with a longer blade, not shown in the cut. So far the tonsil has not been pulled from its bed with forceps, for drawing out the tonsil during the freeing of the pillars distorts the natural relation of the parts and makes the dissection liable to cut into the walls of the tonsillar fossa.

The next step is the dissection of the velar lobe out of its bed in the soft palate. This is accomplished by pulling the tonsil strongly inward and downward with the Casselberry forceps until the velar lobe becomes visible, when it can be severed by the sickle-shaped knife of Tydings from its attachment to the palate above (Fig. 7).

The preliminary dissection is now complete and the tonsil prepared for removal. So far the operator has held the tongue depressor. He now hands it to an assistant, and grasping the tonsil deeply at its upper and lower poles with the Casselberry forceps pulls it inward and downward as far as it will go (Fig. 8). As it has been freed from the pillars and palate by the dissection described it can usually be readily drawn out beyond its base and made to project in its entirety beyond the plane of the pillars. As the deeper tissues of the neck lying in the pharyngomaxillary fossa outside of the dense fascia of the superior constrictor muscle do not follow the pull upon the tonsil it becomes removed by the traction far inward from the danger of wounding larger vessels in its excision. While the tonsil is thus held drawn out of the tonsillar fossa the one of my two tonsil knives, bent on the flat, which curves away from the side of the throat when its edge looks toward the base of the tongue, is inserted above the tonsil and made to cut downward behind its base until the tonsil is severed completely from its bed (Fig. 8). When general anesthesia is used free bleeding follows for a few seconds, but it may always be controlled by placing the index finger in the wound and making pressure. After the removal of the tonsils under cocain and adrenalin there is little or no bleeding.

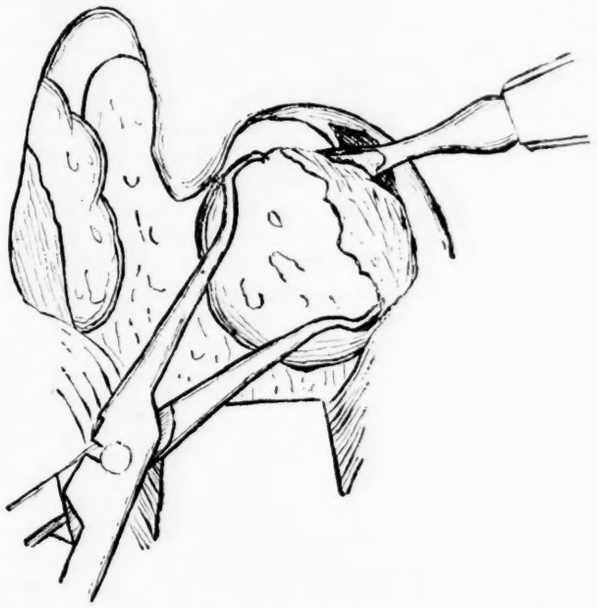

Fig. 8.—The tonsil is strongly drawn downward and inward while the curved Freer tonsil-knife cuts it out under its base.

The reason for the use of the blades curved on the flat instead of straight ones, for the final excision of the tonsil, is the tendency of the point of a straight blade to cut into and buttonhole the posterior pillar, while that of a curved one trends away from it. Probe-pointed knives cut badly.

When the operation is done under general anesthesia it is occasionally necessary to remove, with the Rhodes punch, fragments which were left by the knife. When

local anesthesia is employed, however, the excision is usually so exact and complete that this auxiliary is not needed.

The excision of the small, cicatricial tonsil, after it has been circumcised, is often difficult, and in some instances in which it has degenerated into a ragged warty remnant hidden under the pillars, its flat, friable fissured substance gives no hold to the teeth of the forceps so that they tear out and can not draw the tonsil out. In such cases the pillars must be widely spread with double tenacula by the assistant while the patient half reclines on an operating chair. All the tonsil thus becomes visible and may be cut away piecemeal, including the velar lobe, with the Rhodes punch forceps and the Hartmann-Grünwald nasal punch for smaller pieces. In the great majority of cases, however, the cicatricial tonsil can also be cleanly excised from its bed with the knives as described.

When the tonsil excision is finished the tonsillar fossa appears as a deep hollow, showing the direction of its muscular fibers, and no vestige of the tonsil is visible in it. All of the mucous membrane of the palate and pillars, including the delicate fold of the plica triangularis, remains intact and the smooth wound surfaces left by the knives heal rapidly. After a week nothing of the deep hollow, seen right after the operation in the place of the tonsil, appears, the pillars coming together and collapsing into the fossa, so that no trace of the operation remains except absence of the tonsils.

In ordinary cases the time needed for the operation does not exceed five to ten minutes for each tonsil, but a longer time is required for cicatricial tonsils. The knives must be kept very sharp, for blunt instruments are not suited for dissection, and a case has just come to my knowledge in which a good operator tore through the anterior pillar with a dulled separator and his finger in "enucleating" a tonsil by blunt force, a method of operating involving objectionable violence.

SUMMARY

The most satisfactory and perfect method for the removal of all varieties of diseased tonsils is their dissection from the tonsillar fossa with knives of suitable form.

Tonsillotomy with the tonsillotome or snare, cautery dissection and the attempt to cause shrinkage of the tonsil by galvanocaustic slitting of the crypts are timid and unreliable methods which should be abandoned.

There is less danger of prolonged hemorrhage from the rational excision of the tonsil which I have described in this paper than from the usual methods of its removal.

Not only tonsils which act as obstacles in the throat because of their size, but all varieties of chronically diseased tonsils should be completely dissected out.

34 Washington Street.

Infantile Paralysis.—E. H. Bradford and R. Soutter, in the *American Journal of Orthopedic Surgery*, state that the objections to arthrodesis in this condition are that it necessitates a mutilation and loss of function, and that in young children in whom the ends of the bones to be united are largely cartilaginous, it involves a considerable destruction of tissue without preventing, through the late growth of the limb, a recurrence of the deformity. Arthrodesis, however, finds its place in cases of flail joint in which all muscles are paralyzed, and when successful enables the patient to dispense with apparatus.

HEREDITARY HYPOPLASIA IN MAN, DUE TO DEGENERACY

THE UNDERLYING BASIS OF THOSE CASES HAVING A HEREDITARY ORIGIN, AND THE RELATION OF THIS UNDERLYING CAUSE TO THE FUNCTIONAL NEUROSES, TUBERCULOSIS, INFECTIONS AND IMMUNITY *

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It is my desire to bring before the profession what I believe to be the primary cause of many groups of morbid conditions heretofore considered as being separate, or as having a very loose relation one with the other.

It is known that the impregnated ovum has within it potentially the whole man or the whole woman; that is, body, mind and spirit. It has within it potentially all that constitutes temperament in the adult and also that which is spoken of as heredity as distinguished from environment, which last, however, as a directing force is largely made up of the heredity of the mother.

In order to lend directness and lucidity to this presentation of the subject, I will state here that the factor, or underlying cause, of the various morbid conditions which will be considered later is the degeneracy of the particular line of life active through the person of either the father or the mother, or through both, conveyed by the spermatozoon, or by the ovum, whereby the impregnated ovum, potentially the new individual, fails to receive from his progenitors that as yet unexplained something which brings it about that this unicellular organism shall in due time become evolved into a normal human being.

When the defect in the ovum is very great in degree the resulting individual is very abnormal. Without stating it as a fact, I will suggest that this is the explanation of certain abortions and of certain monsters under the so-called congenital abnormalities of structure, while others doubtless are due to the environment of the ovum while yet in the womb of the mother.

This is the explanation of idiocy, imbecility and dulness of intellect in the group of cases not caused by accidental influences acting through the mother during pregnancy.

It is the explanation of what happens when a subnormal child goes to school. He either has a fairly good body with a dull intelligence (the microcephalic type), so that he does not learn his lessons so easily as his fellows; or, on the other hand, he is unusually bright, but has not the physique to withstand the pressure even of childlife, and so that it is said the child is all brain, but has a very poor body. Between these types are those of the so-called nervous children—that is, those who have an unstable nervous system.

When the subnormal girl reaches puberty, those changes which convert the girl into a maiden fail to take place at or about the eleventh year. At this period the neck of the normal girl loses its flatness, such as a boy has, and it is no longer possible to see the sterno-cleido-mastoid muscles. This is due largely to the development, physiologic hypertrophy, or evolution, of the thyroid gland, aided somewhat by the increase in the thickness of the adipose tissue of the neck. The sub-

* Read before the Southern Surgical and Gynecological Society, St. Louis, Dec. 16, 1908.

normal girl retains the body form of the child, wherein girl and boy are very much alike in their figures. The bones fail to develop, the hips fail to broaden, and the limbs, the body and the face do not attain the rotundity which characterizes the woman as distinguished from the man. The breasts do not develop, and in extreme cases the pubic hair is late in growing. In other words, as it is stated, puberty is delayed. The body retains the form of a neuter—that is, of a child. The pelvic organs do not develop, the vagina remains more like that of a girl, and so do the uterus, Fallopian tubes and the ovaries. It is equally true of the ligaments of the womb. This failure in development may be complete or may be partial, and the least manifestation of it is the so-called pinhole os of Marion Sims, associated, as it is, with narrowness and anteflexion of the cervix. Puberty in the subnormal arrives, when it does arrive, not at 13 in this latitude, but at from 14 to 20, depending on the original defect in the ovum, aided, it may be, in particular cases, by the environment of the child after its birth. Likewise, it will be found in each of the groups of cases that the condition may, as it is said, be acquired, rather than due to the causes of which we are treating. That is, it may be due to the diseases of a nutritional character, to the influence of acute disease, such as typhoid fever, or to some accident profoundly influencing the nervous system. Heretofore it has been said that these conditions are either congenital or acquired.

After marriage such subnormal girls are relatively sterile. Some do not become pregnant; they torment their husbands and worry their doctors, and then comes nervous prostration from worrying over the situation. Others become pregnant, and the womb is imperfectly developed, resulting either in abortions, in abnormal labors, or in lacerations; many of these women have puerperal infection. Then comes nervous prostration from having had this experience. Such women are mentally unstable and everybody says they are peculiar. They are not like other women; that is, they have hypoplasia of their entire bodies. It is not merely arrested development of the pelvic organs, but arrested development of the body in general. Their bones and their muscles, their hearts and their arteries, and, most of all, their nervous system—central, spinal nerves and sympathetic—are imperfectly developed; that is, organs and parts are in a state of hypoplasia, or arrested evolution.

Such women very often have retrodisplacements, when they do not have anteflexion, and all have poor ligaments; round ligaments and uterosacrals, and the broad ligaments, and the Fallopian tubes, and the ovaries likewise are imperfectly developed—are in a state of hypoplasia.

Many of these women have, at about the age of 11, what is called chlorosis, which is a part of this general situation—it belongs in this group. Even Virchow missed the point. He recognized the fact, but did not see the explanation. He said that chlorosis was incurable, because dependent on hypoplasia of the heart; whereas the truth is that hypoplasia of the heart is a mere incident in the general situation. Heretofore it has been said that puberty is arrested because of malnutrition resulting from chlorosis, whereas the truth is that the two have the same primary cause.

It was stated that many of these women have puerperal sepsis. This is mentioned here separately, but will be taken up later in connection with other infections.

This principle explains all the cases of displacement of the uterus not due to accidental causes acting on normal individuals.

Now comes the loose kidney, the so-called nephroptosis. It has been known that such patients usually are queer, that they have many nervous symptoms. Men who are routinists and who have operated on these patients indiscriminately have found that many of them are no better after nephropexy. Others who were more studious and thoughtful, who have taken the trouble to differentiate the cases into groups, those having direct local symptoms, those having reflex symptoms, those having hysteria, and those having nervous prostration, have found that nephropexy cured the patients in the group having local symptoms and the group having reflexes, and so they have restricted their operations to these two groups and have advised that the patients in the other two groups, namely, the hysterics and the neurasthenics, shall not be operated on; or, if operated on, that these nervous disorders shall receive appropriate treatment. The explanation is that the two groups, those having direct and those having reflex symptoms, are instances of acquired nephroptosis in persons of normal development, almost without exception; whereas the other groups are chiefly made up of the patients primarily defective. Hence the mechanical cure of the local condition cured the symptoms in two groups and could not alter the primary basis of the trouble in the other two groups. In practice this will be somewhat mixed, as the groups will overlap each other. Some patients primarily defective will have local symptoms, and operation will relieve the local symptoms, and some patients having acquired nephroptosis as the result of malnutrition due usually to acute disease, less often to long-acting causes, and rarely to traumatism, will develop neurasthenia; hence operation in these cases will cure only the local or reflex symptoms, even in patients primarily normal, and will not influence for good, or will make worse, those having hypoplasia from arrested development.

My work as a gynecologist has brought me in relation more particularly with hysteria, neurasthenia and reflex neuroses. It is probable that such conditions as epilepsy, catalepsy, hysteria, insanity, exophthalmic goiter, etc., have the same basis in degeneracy as those conditions already considered.

As showing the relation between the two groups of cases already studied, it was two gynecologists, Edebohls and myself, who worked out these facts. It has long been observed—and this idea was especially elaborated by Harris—that those having loose kidneys have a peculiar body form; this body form is the same as that which has been discussed in connection with delayed puberty and is due to general hypoplasia. It is the form of the child—the neuter. Harris failed to recognize the underlying cause of this body form. Glenard long ago recognized that dropped stomach and dropped intestines were associated in certain cases with dropped kidneys, and as a result of his teachings, which represent a half-truth, there came confusion in the study of nephroptosis, because the underlying cause of each was not understood. His teaching failed to take into consideration the fact that certain cases are developmental in origin and that others are acquired; hence the confusion.

This group of visceral ptoses, which includes stomach and intestines, the kidneys and the liver and the spleen and the uterus, when not acquired, are all due to developmental causes—to a primary defect in the ovum. But this is not all, because they have general hypoplasia; the liver cells and the cells of the gastric and of the intestinal glands and of the pancreas all feel the influence of the primary defect in the ovum. In addition, the nervous system suffers the consequences of this primary defect, and so we have so-called nervous indigestion, which is merely the outcome of general hypoplasia, when it is not reflex in origin. It has been known for centuries that the consumptive has a peculiar body form, speaking broadly; he or she is not erect; there is a general appearance of lassitude and languor, due to lack of tone and to poor nutrition of the ligaments and of the muscles and of the fasciæ of the body. The form of the vertebral column is altered, its curves are changed. This change lessens the capacity of the chest and alters the configuration of the abdominal cavity. To speak first of the abdominal cavity: This change in form alters the direction in which intra-abdominal pressure exerts its force. Added to this is the lack of tone in the muscles of the abdomen, and these two factors, acting in concert on the viscera of the abdomen and pelvis, with their suspensory ligaments and the other structures which directly support them, themselves feel the influence of the primary defect in the ovum and so have lax tissues, which yield insufficient support—bring about visceral ptosis. The result in the chest is that, owing to the abnormal configuration of the bones, there is less room for the lungs, and, owing to the hypoplasia of the ribs and of the muscles of respiration and of the nerves and nerve centers which control respiration, there is defective respiration. These factors, together with the hypoplasia of the lung tissues, make this group peculiarly susceptible to the invasion of the *Bacillus tuberculosis;* and so it has long been recognized that such people—that is, those having such a configuration of their bodies—are liable to this disease—consumption, or tuberculosis.

It is noted above that the women belonging to this group are peculiarly liable to the development of puerperal infection. I have long observed that these women are especially liable; also that those on whom I have operated for dropped kidney, and the nervous group of which we have been speaking, have been especially liable to develop infection of the urinary tract from catheterization following operations. Now we see that the same group, as has been known for years, are peculiarly liable to develop consumption. What is the explanation? We must go back to the primary defect in the ovum which results in what was formerly called low tissue resistance to infection, or, as it is now stated, a low opsonic index; that is to say, that unknown something, in the blood plasma, which enables the individual through the action of the so-called opsonins to lessen the virulence of the infecting organism. Is not this, in part, the explanation of the nature of infections, of the nature of the loss of relative immunity, of the fact that some are susceptible to the actions of infectious organisms and succumb, and that others who are normal, or who are more normal than those just mentioned, are able through their opsonins to overcome the infecting organisms and thus to recover?

It was first noted by Edebohls that appendicitis of the chronic type, especially, is very common in association with loose kidney. He attributed it to the mechanical influence of the dropped kidney on the vessels of the appendix. His observation was correct, but is not his explanation erroneous? Is not the true explanation the same as that of all of the other groups?

It has long been known that those belonging to the groups discussed are queer people. Their minds are unstable and do not work like others. They do not think soundly or reason accurately, as a rule, and their judgment is apt to be bad. In other words, intellectually they are defective. Likewise the moral perversions belong peculiarly to this group. Thus in this group also are the hysterics, etc., and they are all prone to develop neurasthenia. What does this mean? Hypoplasia of the nervous system due to a primary defect in the ovum. Does not this make the whole subject simple and easy to be understood?

Now, just as with the displacements of the uterus and with the displacements of the kidney, so it is with the chest cases, and with the nervous cases; we can have acquired troubles due to the environment of the individual who is normal, or who is only slightly defective, and the two groups, the cases primarily due to heredity and those primarily due to environment, can be differentiated. In practice the prognosis in one group is good and in the other group must be guarded, is less good, or is bad. The line of treatment must be different in each group. In the acquired cases all that is necessary is to remove the cause and to remove or to cure the particular trouble by therapeutics, medical or surgical, and then the previously normal individual becomes well. In the other group, the cases due to hypoplasia, if in the case of an adult, the cause can not be removed. It lies back in the ancestors who can not be reached. So here we must get at the fringes of the question instead of at its center, fundamentally. We can cure by therapeutics, medical, hygienic or surgical, the secondary results of this primary defect; then along the lines of nutrition, and along the lines of hygienic living, we can improve the condition of the individual until he is well enough to say that he is well again. But that individual can never do a full man's or a full woman's work. When the strains and stresses of life come on him, or her, comes the breakdown and nervous prostration.

And this is not all. This explains what we hear so much about, namely, the inadequate results attained by certain specialists, the kind who are mere routinists, who are superficial men—in other words, who are not experts—those who have not only a narrow field, but also have a shallow education, and who have selected a specialty, not that they may get at the root of the questions which come before them for solution, but in order that they may have an easy time, and not be bothered with too many problems, and so have not gone to the foundations of medicine, which are as broad as natural and physical and mental science, which is necessary for the expert, who is a true specialist. So when cases belonging to this general group (in which are represented many functional conditions or neuroses, involving particular specialties) come to these superficial or false specialists, the treatment takes the form of the useless spectacles, the nose-washes and the blowing of air through the respiratory passages, the silly use of tampons as a routine, or the painting of the os with iodin, or the mere routine employment of the rest-cure without understanding, and the use of electricity for the titillation of the nervous system—the playing on the mind by causing the vibrator to touch the body, or

what is called by such men "psychologic therapeutics," practiced by sending sparks through the patient from Leyden jars. Such men have brought specialism into disrepute among the unthinking, who have failed to recognize that such men are not specialists—that is, experts—but narrow men, with a shallow education, who neither know, nor can see, the truth, when it comes before them; and so it comes that all this routine practice, based on ignorance and incompetence, not only does no good, but wastes the patient's money and brings medicine into disrepute. The truth is that in the diseases belonging to each specialty the same factors are at work, and the explanation of the failure to get good results is that doctors have not separated the cases developmental in origin, due to a defect, primary in the ovum, from those cases in which the disease is acquired, in a normal or relatively normal individual; or, to use the usual terms, they have confused direct and reflex symptoms with hysteria, nervousness and neurasthenia.

This subject (degeneration or hypoplasia) has long occupied my mind, and already twenty years ago I recognized the truth of it so far as it applies to the cure of women having delayed puberty. I appreciated the truth that this was developmental in origin (arrested evolution) and must be treated along nutritional and hygienic lines; but the word congenital was confusing, because one's mind was arrested in its processes at the period of birth and did not go back to the beginning, to the ancestors, and to the influences of heredity on the fertilized ovum—one's reason was lost in the fog or mystery of the creation of a new being.

I was greatly aided in the solution of the problem as applied to this group by the late Harrison Allen, the last—more's the pity—of what may be called the naturalist school of physicians. He was really a great scientist, although he was known as a rhinologist, the one who laid the foundations of the modern surgery of the nose and throat; but he had the broadest of training. He was a great craniologist, one of the most learned in this field in the world. He had been a general surgeon and had given it up because the field was not inviting to a man of his type of mind. The field was too broad and, therefore, the tendency was to make its practitioners shallow. The human mind is not great enough to go to the bottom of many things; so in time Allen, having a philosophical mind, appreciated the great truth, that a stream of given volume must be narrow if it is to become deep. And so after laying the foundations of his career very broadly, he restricted his activities within a reasonable compass.

I was puzzled, as a young gynecologist, by the condition known as "delayed puberty." I saw many cases of it in my dispensary work, where, naturally, the decadent are numerous. I recognized that such patients were peculiar people, not like others; also, that I had not been able to do much for them. I talked with Dr. Allen and he told me that he thought that it would be of interest if I should refer to him a number of such patients to study from the standpoint of a student of natural science. I did so, and he reported his findings in about twenty of them. The report was that their osseous systems were undeveloped, their frames as much like men as like women—that is, they were neuters—that their crania were undeveloped, that they had high-arched palates, that their vocal chords were ill developed, and that such people could not be singers. He also recognized the fact that their nervous system was ill developed, but he stopped with birth and called the condition congenital. But it is evident that the only way to do anything with these people, practically, is along the lines of nutrition and hygiene, and so for twenty years I have treated this group, and then the dropped kidney group, along these lines. The word "congenital" was the stumbling-block. Dr. Allen and I each recognized that the trouble was developmental, and a hypoplasia, but we thought that the trouble was primary in the nervous system and exerted its influence through the trophic nerves, those controlling nutrition, resulting in malnutrition and arrested development.

I have long noticed that in this group of women it is very common to have leucorrhea, and have taught that this, when the discharge is thin in character, comes from the endometrium, and is due to malnutrition and not due to local disease. I failed, however, to appreciate what I believe is the fact, namely, that this is just the same condition as that previously discussed, that it is due to a hypoplasia of the cells of the endometrium so that they fail to functionate normally and are subject to degenerative changes in structure. Is it not the underlying cause of so-called glandular hypertrophy of the endometrium, and is not this the same pathologic condition found in the throat and called adenoids and diseased tonsils, and does not this theory explain this group of debilitated women, and also all the children who are not vigorous, and who get adenoids and diseased tonsils and become mouth-breathers?

Now how are we to differentiate the defective children, those in whom puberty is delayed, those with visceral ptoses, with consumption, with neuroses of hereditary developmental origin, from those in whom it is acquired? By eliciting the family history and by looking for the stigmata of degeneracy, particularly, because this is the easiest, for the high-arched palate of the degenerate. All the other stigmata of degeneracy are as significant, but they are less easily recognized.

It has been only recently that the truth which lies behind all these isolated facts, so long known by many, came to me through the correlation of these isolated truths, whereby one obtained the premises, the proper point of view, from which to see the truths above noted, and on which to reason, and then the conclusion became inevitable that the real basic nature of all these apparently separate groups of morbid conditions lies in the defective ovum due to heredity and to the degeneracy. Now here lies the explanation of that ancient proverb, that the sins of the father are visited on the children to the third and fourth generation — not because the Almighty is revengeful, but because this is Nature's law and is, therefore, inevitable.

1509 Locust Street.

Tuberculin Reaction in Eye Diseases.—P. A. Callan (*New York Eye and Ear Infirmary Reports*, July, 1908, xiii, 18) calls attention to subnormal temperature within a few hours after injection of tuberculin. The reduction varied from 1 to 2 degrees F.; and was quickly followed by a rapid rise culminating at the maximum within twelve hours. Some patients suffered a great deal from the effects of tuberculin. Not unfrequently they complained of a chilly feeling, severe headaches, nausea with pains in various parts of the system; and generally immediately most of them complained of a feeling of malaise and general discomfort. While the doses of Koch's tuberculin given for diagnostic purpose were not large, he reports two patients who, in his opinion, were made worse by them. This subnormal temperature might be more frequently discovered if the temperature were taken within one hour after the injection.

Clinical Notes

PROPHYLACTIC EFFECT OF ANTITOXIN ON THE CHILD IN UTERO

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Two years ago I was called to treat a child supposed to be suffering with tonsillitis. I found the child with an unmistakable diphtheritic membrane in its throat. A second child also complained of sore throat and was found to have a membrane on the uvula. The mother, who expected to give birth to another child in a few days, also had a membrane in the throat. The diagnoses were all confirmed microscopically later. The first child had a severe attack and three weeks later died from nephritis. The second child and the mother were not severely ill, as I injected antitoxin at once in all cases and their illness had been of but twenty-four hours duration at the time of the injection.

I administered 4,000 units to the mother, followed in twelve hours by 3,000 more. Ten hours after the mother received the second injection the child was born, under anything but ideal conditions. I allowed the child to remain with its mother and to take the breast. The mother had fever and the membrane remained in her throat for about three days after delivery, but the child was perfectly healthy and never developed a membrane nor was there any appearance of sore throat.

I have never seen a report of a similar case, but suppose that the child must have obtained a prophylactic dose of the antitoxin through its mother's blood.

AN IMPROVED TONSIL SNARE

WILLIAM A. MARTIN, M.D.
SAN FRANCISCO

The value of a tonsil snare depends on several qualities. First, it should carry a loop large enough to pass over the handles of the tonsil-seizing forceps of ordinary size. Second, one should be able to tighten the loop quickly to any desired extent with the use of one hand. Third, one should be able to employ a slow and powerful tension at any moment without the aid of the second hand.

An Improved Tonsil Snare.

From designs which I furnished some time since, a snare has been perfected which embodies these qualities without being too complicated. The wire is threaded through a stylet which has a ratchet on one side. The loop can be tightened by pulling on the rings as with the common pattern of snare, or it may be tightened by revolving the rings (there being a cogwheel on the bar which joins the two rings that acts on the ratchet). The friction clutch A holds the carriage firmly while the ratchet is being used. The loop can be enlarged or released at any time by simply pushing the friction clutch A forward or by releasing the catch B and reversing the direction of the rings, which pushes the ratchet stylet forward in the canula. This permits the same loop to be used repeatedly. The instrument is made of steel, is light and strong, and will bear the closest scrutiny as to workmanship.

TYPHOID SPINE *

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In 1889 Gibney[1] of New York described a condition of the spine following enteric fever, of which he had 4 cases, to which the term typhoid spine was applied. From that time until 1902 Lord[2] found that 26 cases had been reported, and in 1905 Fluss[3] noted 42 cases of the same condition. Silver[4] in 1907 reported a case and also reviewed the literature on the subject to that date, collecting in all 67 cases. Since then 2 cases have been reported by Myers,[5] 1 by Peltesohn[6] and 2 by LeBreton.[7] An early case by Schmitz,[8] which was overlooked in previous reviews, with the following case brings the total to 74.

Patient.—A lad of sixteen suffered from a mild attack of enteric fever which confined him to bed a little over four weeks. The most prominent feature of the condition was the profuse and protracted eruption of rose spots on the chest, front and back, abdomen, arms and legs. They appeared about the eighth day of the disease and persisted until the latter part of the third week. Convalescence was rapid, and he was able to return to his work in a short time.

Development of Complication.—About six weeks after being up from the attack of typhoid fever there suddenly developed severe pain in the lumbar region. This came on after a hard ride on a bicycle. Though suffering constantly, he pursued his ordinary duties for about two weeks but was then forced to give up and take to his bed, where he remained for a week.

The pain at this time was located mostly in the lumbar region, where, on pressure over the body of the second lumbar vertebra, it became excruciating. It was referred in a lesser degree to the right side and downward toward the crest of the ilium, also to a still less degree to the left side in the same position. Pressure in these regions elicited some tenderness which seemed to be localized, while if pressure was exerted on the lateral aspects of the iliac crests no pain could be produced in the sacroiliac symphysis; no tenderness was present in the last named region. The patient also complained of a pain which encircled his body like a belt at the waist line. There was a slight degree of anesthesia on the right side below the anterior superior spine of the ilium, which extended downward to the symphysis of the pubes. There was no deformity of the spine, nor has any occurred since. Swelling and

* Read before the Philadelphia County Medical Society, Oct. 28, 1908.

1. Gibney, V. P.: Tr. Am. Orthop. Assn., 1889, ii, 19.
2. Lord, Frederick T.: Boston Med. and Surg. Jour., June 26, 1902, p. 689.
3. Fluss, Karl: Centralbl. f. d. Grengeb. d. Med. u. Chir., viii, 645, 730, 817.
4. Silver, David: Am. Jour. Orthop. Surg., October, 1907, p. 194.
5. Meyers, T. Halsted: Am. Jour. Orthop. Surg., October, 1907, p. 180.
6. Peltesohn, S.: Ztschr. f. Orthop. Chir., xix, 239.
7. LeBreton, Prescott: Two Cases of Typhoid Spine, THE JOURNAL A. M. A., Nov. 2, 1907, xlix, 1529.
8. St. Petersburg med. Wchnschr., 1901, p. 254.

redness were both absent during the entire attack of the spinal condition, although his temperature ran between 101 and 102 degrees.

The pain was exceedingly severe, even when the spine was in the most comfortable position, and rendered the patient quite helpless. Even after getting up from the above acute condition he was unable to dress or undress, as any movement of the spine either forward or laterally caused him to scream from pain. Almost immediate relief could be obtained by allowing the patient to support himself with his hands on the back of a chair, his legs being flexed and the toes lightly touching the floor. The pain could also be relieved to a great extent by an exaggerated erect posture, thus removing the superincumbent weight from the bodies of the vertebræ and placing it on the posterior portions of the spinal column.

Treatment.—The use of opium and at times the above described positions relieved the pain to a considerable degree, but for permanent results fixation of the spine by mechanical means was advised. Dr. Rugh was asked to see the case, concurred in the diagnosis, and applied a plaster jacket while the patient was extended to full length by means of a tackle and pulley arrangement, the feet of the patient being allowed to touch the floor sufficiently to maintain steadiness and to bear a slight part of the body weight.

Course of Disease.—Two days after the cast had been applied the patient weighed 119 pounds, and in about a week he had gained five pounds. The pained expression on his face disappeared, the appetite improved, and sleep became more restful. There was no pain except when the patient inadvertently jarred himself, as by stepping down heavily or seating himself suddenly. The cast was worn constantly for about eight weeks, and then continued for a couple of weeks longer as a corset, being applied in the morning and retained in place by means of tapes passing entirely around the chest, and removed on retiring.

He made a complete recovery, there being no recurrences of pain, and when seen a year later he was in perfect health, his weight being 153 pounds.

Neither during his illness nor since have any nervous symptoms been observed; nor have any special nervous conditions been noted in other members of the family.

2025 Chestnut Street.

DERMATITIS VENENATA DUE TO A PROPRIETARY HAIR-DYE

ALFRED SCHALEK, M.D.
OMAHA

I was called to see Mrs. E. W., November 4. For a week she had been treated for supposed erysipelas of the face, without benefit. The patient had a rapid pulse but normal temperature, the scalp and the face were much inflamed, of a dusky red, edematous, with a few scattered bullæ. The eyelids were swollen and closed, the eyes injected, smarting and extremely sensitive to light. The patient complained of a burning sensation (but no pain) and of general restlessness which had prevented her from sleeping during the last three nights. Applications of mud poultices and some other dark, sticky, ill-smelling "patent medicines" had succeeded in matting her hair into a felt-like mass and in making her decidedly worse. I diagnosed the case as dermatitis venenata, but was unable to discover the cause at that time. Under appropriate treatment the patient recovered quickly and on November 11, I discharged her cured. November 21, I received another urgent call to see her and found her in the same condition as the first time. Close questioning elucidated the fact that on the previous day she had dyed her hair with "Mrs. Potter's Pure Walnut-Juice Hair-Dye, warranted not to contain lead, silver, opium, etc.," and shortly afterward felt a burning sensation in her scalp, which was followed in a few hours by her present condition. She also acknowledged that her former similar experience followed closely on her first trial of the dye.

A MODIFIED METHOD FOR THE SUBCUTANEOUS USE OF ARSENIC

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NEW YORK

The hypodermic use of arsenic has long ago established itself as one of the best methods of administering this drug. The subcutaneous use of this medicament is preferable in all diseases in which a long-continued arsenic medication is indicated, particularly in those cases in which we have to deal with a pathologic gastrointestinal canal. The subcutaneous use of arsenic is preferable in certain affections of the skin, as in scleroderma, lichen ruber, and in a number of diseases of the blood, as in pernicious anemia pseudoleukemia, etc. The hypodermic method has the advantages, first, that the dosage is accurate; second, that the dose is smaller than that given by mouth; third, that it does not irritate the gastrointestinal mucous membrane; and, fourth, that toxic symptoms have rarely been noticed when the inorganic salts are used.

We are indebted to Ziemssen[1] for one of the earliest and best modifications of the method of hypodermic administration of arsenic. The disadvantages of the previous methods, which mainly consisted in the simple injection of liquor potassii arsenitis (Fowler's solution), or of Pearson's solution, were the following: First, these solutions decomposed very easily; second, they were highly irritating to the subcutaneous tissue, so that in certain instances abscesses and even gangrene resulted. In order to counteract these disadvantages Ziemssen employed a 1 per cent. solution of sodium arsenite and attributes the advantage of his preparation in the fact that "it does not cause any or very slight irritation." I have used Ziemssen's solution in a number of cases, and while the results were excellent, I have found that the injections were attended with considerable pain, so much so, that in one case the patient avowed that "the cure was worse than the disease." I attributed the irritating effects of this solution to its strong alkalinity. In order to counteract the strong alkalinity I modified Ziemssen's solution as follows:

One gram of arsenious acid and 2.25 c.c. normal soda solution are boiled in 100 c.c. of distilled water until a clear solution results. This solution is filtered and enough distilled water added to make the filtrate weigh 100 gm. This 1 per cent. solution of sodium arsenite is slightly alkaline. The solution is kept in quantities of 15 c.c. in small sterilized Florence flasks, which are closed by sterile cotton stoppers. When alkaline solutions are kept for a long time in ordinary glass bottles a slight turbidity and sediment occur, due to the action of the alkali on the glass.

I tested the alkalinity of this solution in comparison with Fowler's and Ziemssen's and I found that 5 gm. of Fowler's solution required 1.2 c.c. of normal sulphuric acid solution to neutralize the alkalinity, and 5 c.c. of Ziemssen's solution required 0.48 c.c., while my modification required 0.23 c.c. of normal sulphuric acid solution. Litmus was used as indicator.

I have employed these injections in a number of cases and found that they are nearly painless; at the most they cause a slight burning, which sensation promptly disappears. I have never seen an abscess result from an

1. Deutsch. Arch. f. klin. Med., lvi, 124.

injection. The injections must be made with all aseptic precautions. After the injection an alcohol dressing is advisable in order to counteract any possible infection. I begin with an injection of 0.25 c.c. and gradually increase the strength to 1 c.c. daily (0.01 gm. sodium arsenite). In one case of pernicious anemia I injected 2 c.c. (0.02 gm. sodium arsenite) every second day, without causing any toxic symptoms. Clinically the results with the modified solutions were very gratifying. The injections are made on the upper arm or between the shoulder blades.

Despite the favorable reports in regard to the treatment of certain skin affections and syphilis by the hypodermic use of atoxyl and the cacodylates, which contain, respectively, 37.7 per cent., 35 per cent. of pure arsenic, these organic and less poisonous combinations of arsenic have not proved nearly as efficacious as the conventional inorganic arsenic preparations in the more aggravated skin lesions, and especially in Hodgkin's disease and pernicious anemia. Another objection to the hypodermic use of the organic arsenic combinations in these diseases is found in the fact that the dose has to be a large one to be of any therapeutic use, and this circumstance frequently has caused severe arsenic intoxications with serious consequences, as the literature of the last year goes to show.

224 West Twenty-fourth Street.

AN UNUSUAL COMPLICATION OF THE OPERATION FOR CONGENITAL DISLOCATION OF THE HIP

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The following case seems interesting on account of a rather infrequent complication:

Patient.—O. A., a girl of 8, was brought to the Roosevelt Hospital on Oct. 23, 1908, on account of a peculiar gait which had always been present since infancy. She had never suffered pain.

Examination.—Fairly well-nourished child, walking with a decided waddle. Heads of both femurs were dislocated, the right being fairly well developed, the left not so well. Well-marked lumbar lordosis was present. Length of right leg, 53.5 cm.; length of left leg, 53 cm.

Operation.—About November 23 the child entered the hospital and shortly thereafter was put to bed with extension of thighs at a right angle to her trunk. On December 7, under ether anesthesia, the Lorenz operation was done on both hips. The adductors were broken down rather easily, and reposition was accomplished on both sides without difficulty. The stability on the right side was rather poor, but on the left good, The head on this side was prominent and in its normal place under the femoral artery. In order to prevent reluxation, the thighs were held in extreme abduction while the dressing was put on, abduction being carried well behind the plane of the body. During the application of the plaster, the house surgeon, who was holding the legs, called attention to the condition of the left leg and foot. They were bluish-red and pulseless. This was considered to be due to the constriction of the dressings at the knee, and they were loosened at that point. As the circulation in the limb had not improved, however, by the time the plaster had been applied, the cause of the difficulty was sought. No pulsation could be felt in the popliteal vessels, nor at any point below the plaster, and the foot was becoming darker and rather cold. Next the plaster was cut away over the head of the femur to relieve pressure there. The femoral artery did not pulsate. Then all the plaster was removed from the affected limb, still without producing any improvement whatever. Not until the hip was redislocated did the circulation start up.

In describing a case of gangrene after reduction of one of these hips Lorenz was wont to ascribe it to a compression of the femoral artery between the plaster and the prominent head of the femur, and this explanation has always been accepted as the correct one, as it certainly would be the most obvious. In this case, at least, if the plaster had been left on and any accident had occurred, we probably should have considered it due to this cause. In view of the facts, however, some other theory must be entertained. Evidently the dressing had nothing to do with it. We are inclined to think that the head of the superabducted femur (that is, superabducted from a position of right-angled flexion) compressed the femoral artery against Poupart's ligament and thus shut off the blood supply.

Whatever theory is entertained, this case demonstrates the necessity of watching carefully the circulation in a leg after the reduction of a congenital dislocation, both at the time of operation and afterward.

THE POSSIBILITIES OF INFECTION FROM TABLE UTENSILS AT SANATORIA*

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SARANAC LAKE, N. Y.

In the following experiments forks, spoons, teacups and milk glasses in constant use at the Reception Hospital, Saranac Lake, were used. This institution receives patients suffering with pulmonary tuberculosis, a large majority of whom are in an advanced stage of the disease, and some of whom are in the last stages.

The experiments were made without the previous knowledge of the nurses or maids of the institution, and several months apart, to avoid the possibility of the dishes receiving an unusually good washing.

For the first experiment thirty forks and twenty-five each of spoons, cups and tumblers were selected immediately after breakfast, and after ordinary good washing but not sterilization, the modus operandi of which was as follows: The utensils were first thoroughly cleansed with a mop or cloth, with soap and water as hot as the maid's hand's could stand, and then rinsed in running water as hot as it could be delivered through a pipe leading from a tank containing boiling or almost boiling water, and then dried with a cloth.

In order to obtain the material for the experiment the articles selected were, after the usual washing, well rubbed with a sterile 0.5 per cent. sodium bicarbonate solution by means of sterile cotton swabs on glass rods, and these washings used for the inoculation of guinea-pigs. The washings were taken at once to the laboratory and distributed among fifty-six guinea-pigs by subcutaneous injection into the right groin, 0.75 c.c. to each pig, and with the use of sterile syringes. The distribution was as follows:

Washings from forks, 14 pigs
Washings from spoons, 14 pigs
Washings from cups, 8 pigs
Washings from tumblers, 8 pigs
Mixed washings of cups and glasses, 6 pigs.
Mixed washings of forks and spoons, 6 pigs.

One animal died on the second day after the inoculation, and thirteen others from time to time up to the forty-first day, when all living animals were killed. An

* Read before the International Congress on Tuberculosis, Washington, D. C., Oct. 1, 1908.

autopsy was performed on each animal at the time of its death or when killed, and all were found to be free of tuberculous infection. Smears were made on slides from the spleens and right inguinal glands of all those pigs killed on the forty-first day, and examined microscopically for tubercle bacilli, and found to be negative in every instance, nor could tubercle bacilli be demonstrated in stained specimens of the centrifugalized washings before inoculation.

In the second experiment five articles of each sort were selected immediately after use and before washing of any kind, and swabbed with the 0.5 per cent. sodium bicarbonate solution as described above. These washings, which were very cloudy with particles of food, were immediately on arrival at the laboratory injected into eight guinea-pigs in the same manner as in the first experiment, the washings of each set of articles being divided between two pigs.

All these animals lived until the forty-first day, when they were killed and autopsied, and all, excepting the two inoculated with the washings from the milk glasses, were found to be tuberculous. It was an easy matter to demonstrate tubercle bacilli on slides made from the glands and spleens of these pigs, though no tubercle bacilli had been found in a casual search of smears made from the washings previous to inoculation.

The third experiment was a repetition of the first, but with the use of only six each of the utensils and twelve pigs, the washings from the different articles being distributed among three pigs. This test was made eight months later, when the dish-washing was being done by a new set of maids, but under the supervision of the same corps of nurses. The result, however, was the same.

It is fully realized that two experiments are not sufficient for definite conclusions, and that sterilization of eating utensils by heat or boiling, when possible, is not to be discouraged; at the same time when the dish-washing is thorough the danger of infection from this source does not seem to be very great.

My thanks are due to the Saranac Laboratory and the Reception Hospital for facilities placed at my disposal for the experiment, and to Dr. Baldwin, who suggested it.

121 Main Street.

CONGENITAL INSUFFICIENCY OF THE PALATE *

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ATLANTIC CITY, N. J.

My attention was first directed to this condition by Makuen of Philadelphia, who exhibited a similar case before the College of Physicians and Surgeons about a year ago. As far as I have been able to discover, there has been no reference made to it in medical literature up to the present time.

Patient.—L. C., white, female, single, aged 18, referred to me by Dr. Mary Townsend, of this city, consulted me Oct. 22, 1908. Practically her entire complaint was a marked defect in speech, which she said had existed ever since she began to talk; it was that alone which prompted her to seek medical advice. There was slight nasal obstruction and some postnasal "dropping," but these were not troublesome enough to cause any complaint in themselves. There was no history of diphtheria or other serious illness; in fact, with the exception of measles at the age of 14, which clearly had had no effect on the condition under consideration, the patient had always enjoyed good health. The family history was negative.

Examination.—The palatal reflex was absent, and the free edge of the soft palate hung so far away from the posterior pharyngeal wall that a postnasal examination could be made with a large laryngeal mirror with perfect ease. Sensation was unimpaired. Occasionally small amounts of tea and coffee come through the nose, but apparently not often enough to be troublesome. The following points were further evidence of faulty development: The uvula was short and bifurcated. The palate, while not extremely high, was undoubtedly more highly arched than the average normal one. On palpation with the finger in the mouth, or on inspection while lifting the velum upward and backward with a blunt probe, it was seen that the posterior edge of the hard palate at the point of its attachment to the soft one, presented the shape of a long narrow letter V with the apex located well forward, and that the soft palate was abnormally short and not of sufficient length to reach the posterior pharyngeal wall. Incidentally, there was a hypertrophic rhinitis with a marked hypertrophy of the tips of the lower turbinals posteriorly, with mucoid degeneration of the mucous membrane covering them.

In normal voice-production when any sounds except those of *m*, *n*, and *ng* are spoken, the soft palate is made tense by the tensor palati muscle and lifted upward and backward by the levator palati until it comes tightly in contact with the posterior pharyngeal wall, thereby shutting off all communication with the nasal cavity and causing the oral cavity to be used as the chief resonating-chamber. But, when the sounds *m*, *n* and *ng* are produced, the soft palate hangs uncontracted, the communication with the nasal cavity remains intact and the latter plays the chief rôle as a resonating chamber.

In this case, so far as results are concerned, the palate is constantly in a state comparable to that of a normal individual during the production of these three sounds; that is, it is "insufficient" to shut out the nasal cavity as it should in the production of all other sounds, thereby allowing it to participate strongly as a resonating chamber not only in the production of the sounds of m, n and ng as it should under normal conditions, and which, as would naturally be expected, she can say as plainly as anyone, but also in the production of all other sounds as well, a distinctly abnormal condition, thus imparting a strong nasal "twang" to her speech and causing her to talk through her nose.

In the development of the normal embryo, at about the fifth week the first visceral arch divides into an upper part, the maxillary arch, and a lower portion, the mandibular arch. The maxillary arches of the two sides unite at their anterior ends with the intervening nasofrontal process to form the upper boundary of the buccal cavity; the mandibulars to form the inferior boundary. In the fetus the palate process of the superior maxilla advances toward the median line until it meets and unites with its fellow of the opposite side. The horizontal plate of the palate bone develops similarly and very shortly after and thus is produced the hard palate. The two halves of the hard palate unite first in front, their union being completed about the twelfth week. Ordinarily it is stated that if union is incomplete the anomaly of cleft palate results.

In this case while union has apparently been practically complete and the patient has been fortunate enough to escape the greater evil of cleft palate, still development has not gone on to the perfection of completion (as is evidenced by the V-shaped posterior edge and the high arch of the hard palate, the short soft pal-

* Read before the Atlantic County Medical Society, Dec. 4, 1908.

ate and the short and bifurcated uvula), but has been arrested in a stage which presents the above clinical picture, a condition to which Makuen very aptly gives the name of "congenital insufficiency of the palate."

100 St. Charles Place.

IMPORTANCE OF URINE EXAMINATION IN SUSPECTED TYPHOID FEVER

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PITTSBURG, PA.

History.—I was first consulted in the case of Miss B., aged 19, November 29. She had headache, general malaise and loss of appetite, November 15, and these symptoms lasted for a week. At that time she was constipated and took two ounces of sodium and potassium tartrate. She then suffered from foul smelling diarrhea which persisted for three days and was followed by constipation. About November 22 the headache disappeared, though the general malaise remained, and that evening she had several chills, followed by a rise in temperature, for which she took three grains of quinin three times a day. Pain in the abdomen appeared November 26, and seemed to follow the transverse colon. It was of gradual onset and she applied a mustard plaster but without result.

Examination.—The patient was somewhat emaciated and very weak. The pupils were slightly dilated; the sclera was clear. The tongue had a heavy gray coating with a brown crusted center. The tip and edges were clear and red but not glazed. The breath was very foul. Temperature was 101 F., pulse 88. Chest examination was negative.

Abdomen.—The abdomen was very muscular, flat, and somewhat rigid. There was no gurgling. The patient complained of pain and tenderness in the region of the transverse colon; neither of these could be localized. Percussion and auscultation revealed nothing of value. The bowels had not moved for three days and the patient stated that the urine was darker than usual.

Diagnosis.—A fellow worker was in the hospital with typhoid and I made a provisional diagnosis of typhoid and told the patient to save a specimen of the next morning's urine. I examined the urine and found it loaded with bile. I again examined the abdomen and was able to palpate a distended gall bladder beneath the edge of an exceptionally large rectus muscle. There was localized pain and tenderness and I then made a diagnosis of cholangitis. Under appropriate treatment the condition cleared up in a week.

Had the urine not been examined in this case the patient might easily have been treated for typhoid, as there was no jaundice and the color of the stools was not noted. Had this been done, cholecystitis would probably have developed with its serious results for the patient. This case should emphasize the necessity for examination of the urine in all cases of typhoid or suspected typhoid.

439 Jucunda Street.

Therapeutics

INDIVIDUAL TENDENCIES

In this era of materialism the aversion to accepting anything as a fact, unless it can be occularly, aurally, chemically, microscopically or bacteriologically demonstrated, has relegated the "temperaments," diatheses, and even atavistic heritages, into the realm of oblivion. Sir Dyce Duckworth, in an address reported in the *Lancet*, March 7, 1908, calls the attention of the profession to the consideration of the factor of inheritance in the treatment of disease. For several years teachers of therapeutics have been endeavoring to teach the necessity of individualizing the patient, but even they have forgotten the necessity for also individualizing the family. Such individualization is not only of special advantage in the treatment of chronic conditions, but is also of advantage in the treatment of acute disease.

There is no more doubt that an individual inherits family weakness and family strength, or, if the phrase is preferred, family tendencies, than there is that he inherits the features and general physique of his parents and grandparents. While it may be going a step backward to speak of temperaments, we certainly should consider, as pointed out by Duckworth, the tendencies of the individual which may be enumerated as "arthritic," scrofulous or lymphatic, nervous, and bilious." These tendencies are often recognizable by the general appearance and physical findings but if not can almost always be developed by a careful investigation into the family history of the patient.

It should be the rule of the physician to inquire into the family history as carefully with every new patient as is required in an insurance examination. The discovery of instances of arteriosclerosis, cardiac disturbances, rheumatism, gout, or other joint disturbances in a family would show the arthritic tendency. The discovery of glandular disturbances, tuberculosis, pneumonias, adenoid and tonsillar disturbances, and anemias, in a family would show a tendency to "scrofulous" and lymphatic conditions which so frequently precede tuberculosis. While the word scrofulous has come into disuse and it may be a step backward to use it, Duckworth believes that it may be applied to the condition of childhood so long recognized under that name. With instances of neuroses and neurotic conditions, perhaps mental aberrations functional cardiac disturbances and nerve disturbances in the family, the patient will probably be neurotic and all symptoms should be considered accordingly. If the family shows a series of digestive troubles, liver, stomach, intestinal and kidney, the old term of "bilious temperament" or tendency may not be misapplied, if it is thoroughly understood what it signifies.

Duckworth well says "the physiologist has a dog or a guinea-pig, or some definite organ of an animal, but rarely a man before him. The problems are not the same, and never can be. The personal factor, then, demands careful study from the physician, for men and women are not so many wooden ninepins turned in a lathe as some would have us believe. We have to reckon with seed and soil, not with seed only. Surely we have an exquisite analogy here in the sister vegetable kingdom which can not be ignored, viz.: the soil is as important to consider as the seed."

It is obviously certain that some families are predisposed to rheumatism and gout, for instance, and members of other families may be subjected to the same conditions and opportunities of infection (if we believe that rheumatism is an infection) and still not be afflicted with these diseases. Thus it seems evident that there is a something present in one individual that will combat certain conditions and diseases which is not present in another individual who is really suffering from a predisposition to conditions of certain types. These predispositions or tendencies are perfectly evident in tuberculosis, the omnipresent tubercle bacilli being constantly killed in certain individuals and readily living and thriving in others. Other persons with sickness, debility, overwork and mental worry readily become nervous and mental wrecks, while an individual

from another family suffering from the same series of conditions never loses his mental or nervous caliber; again an instance of family tendency. Still other individuals, and whole families, are subject to digestive disturbances of all kinds, and are continually deciding what they shall eat, when they shall eat, and how they shall eat, while members of another family hardly know what is means to have digestive disturbances.

It, therefore, is of vital importance to the patient that his physician should know and recognize the diathesis or predisposition to certain types of disease that he has inherited, so that whatever treatment his present condition may call for, the tendency to the family weakness may be at the same time properly combated.

To be specific, a patient who has had a uric acid colic, or who has slightly increased blood pressure, or slight shooting pains in the joints, and whose family shows a tendency to gout and arthritic troubles, should not be dismissed as soon as his present condition is improved without an arrangement of his diet and life that will prevent, at least, the immediate development of a more serious condition.

A patient with pneumonia whose family shows a tuberculous tendency should not be dismissed from professional care as soon as the lung has apparently recovered. Such a patient should have a prolonged rest and fresh air cure, after he has apparently recovered, and should be carefully watched for months.

Again, a patient who has sleeplessness, who is overworking mentally, whose family is neurotic, and who comes for treatment on account of loss of appetite and a general debilitated condition, should not be dismissed as soon as he has improved in the conditions for which he sought aid without most careful advice as to the necessity for vacations, the necessity for more hours of sleep, the avoidance of too much tea, coffee, alcohol, tobacco and narcotics. Such a patient should be carefully advised of the dangers of taking nostrums and "pain-stops" and any hypnotic. Such patients to whom pain is not only really more intense than in other individuals, but whose pain is always exaggerated, become profitable prey for the exploiters of quack medicines and quack treatments of all kinds.

Lastly, a patient who has recurrent "bilious attacks," or other attacks of acute indigestion, and whose family shows a tendency to gastrointestinal and other abdominal disturbances, should not be lightly dismissed as soon as the acute condition has been overcome. He should be carefully advised as to his diet and the care of his stomach and bowels, and the avoidance of repeated excesses.

In other words, a careful study into the family history of a patient offers the opportunity to exercise the highest aim of the medical profession, viz.: such therapeutic advice as will prevent disease.

WATER AS A DIURETIC

Dr. T. C. Holloway, in the *Kentucky Medical Journal*, April, 1908, calls attention to the neglect of the proper drinking of water, both in acute and chronic conditions.

He points out that as a routine examination of patients whose condition we do not thoroughly understand, the amount of urine passed in twenty-four hours and the specific gravity of the twenty-four hours' output should be known, as well as the less frequently omitted examination for albumin and sugar. If the urine were more frequently examined during simple acute processes the profession would be surprised at the frequency with which disturbances of the kidney functions are found. All too frequently, when an insufficient amount of urine is passed, more or less irritant diuretics are given when simply an increased amount of water is needed.

A caution should be noted here, that with real nephritis, or with an insufficiency of the heart, or a failure of the circulation, or when there is edema, large amounts of water should not be drunk. On the other hand, in conditions in which water should be administered both as a diuretic and to dilute all the excretions, it is not sufficient for the physician to direct a patient to "drink plenty of water," but he should specify the amount of water he wishes taken during the twenty-four hours.

Especially is it necessary, during acute infective processes in children, to urge their drinking plenty of water, perhaps as lemonade, orangeade, or barley water; but water in some form should be freely given.

Holloway urges the necessity of having pregnant women drink water in larger amount than they generally do, as tending to prevent the toxemias that so readily occur from the retained products of metabolism.

Also in the preparation of patients for operation, the free administration of water during the forty-eight hours preceding the operation is a great help in clearing the body of refuse products of nitrogenous metabolism, and puts the patient in better condition to withstand the anesthetic and the shock of the operation.

NOT RHEUMATISM, BUT FLATFOOT

A man, 47 years of age, whose business required him to be on his feet a greater part of the day, complained of pains in his ankles, calves of the legs, knees, and thighs, from which he had suffered for two years. He had been treated for rheumatism, for gout, and for "uricacidemia" by different physicians, and had even taken a trip to California, where he remained for nearly three months. No treatment had been of any benefit, and even the California trip, on which he had gained twelve pounds in weight, had not prevented his leg aches.

Examination showed that the man was well; he did not have inflammatory rheumatism, chronic rheumatism, gouty rheumatism, uricacidemia; he had no spinal cord trouble, no locomotor ataxia, no specific history, no circulatory trouble, no edemas, no varicose veins, no toxemias, no metallic poisonings; he did not smoke, and therefore had no tobacco poisoning; any one or all of which might cause pain in his legs. When he was made to stand barefooted on smoked, glazed paper it was seen that he had partially lost the arch in both feet; in other words, he had become partially flat-footed, or weak-footed, as it may be better termed.

The loss of the plantar arches was the cause of such loss in the perfect transmission of the weight as to produce straining of the different muscles and tendons of the legs, and would account for his suffering. He was ordered inside shoe supports for these broken arches, and these relieved him of further trouble.

Operations on the Neck.—D. B. Delavan, in *Annals of Otology, Rhinology and Laryngology*, directs attention to the fact that operations for the removal of new growths of the neck in which the necessary dissections approach the vicinity of the recurrent laryngeal nerves may easily be attended with injury to them, as also may attempts at the extirpation of diseased lymph nodes lying near to the larynx or trachea.

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[*For other information see second page following reading matter*]

SATURDAY, FEBRUARY 13, 1909

DR. WILEY AND BENZOATE OF SODA

The referee board appointed by President Roosevelt to review some of the decisions made by the Bureau of Chemistry, according to press reports, has reversed the findings of Dr. Harvey W. Wiley regarding the harmfulness of benzoate of soda as a food preservative. The first question to engage the attention of this board was that dealing with the influence of sodium benzoate on the nutrition and health of man; the larger—and to the public, the more important—question as to the fraud which the use of this chemical permits manufacturers to impose on the consumer, has not yet been dealt with. Briefly stated, the referee board—the scientific attainments and unimpeachable reputation of whose personnel requires that its decisions be given the most thoughtful consideration—has, in a series of experiments on "poison squads" extending over a period of four months, reached results diametrically opposite to those arrived at by Dr. Wiley in a similar series of experiments which he conducted for nearly a year.

This decision of the board leaves the question of the physiologic action of sodium benzoate on the community practically where it was before; that is, that while the substance is known to be a bacterial poison, its deleterious action on the human organism is, in the words of the Scotch verdict, "not proven."

It is greatly to be regretted that the public announcement of the decision of the referee board should not have been so worded as to make clear to the public mind the limitations of the question under consideration. There is some danger that to the public the decision will mean that Dr. Wiley's work is discredited, when as a matter of fact it means nothing of the sort. The point that the board's report emphasizes is that under the conditions of the experiments—which consisted in giving healthy young men certain definite quantities of sodium benzoate for a period not exceeding four months—the preservative is without deleterious action and is not injurious to health. To assume from these findings that the use of benzoate of soda in foodstuffs is therefore beyond criticism is absolutely unwarranted, and there is little doubt but that the board itself would be the last body to sanction such an assumption. Neither is there the slightest ground for assuming from the experiments that benzoate of soda in milk used by infants and invalids is not deleterious or injurious.

Benzoate of soda is incorporated in foods for one—or both—of two reasons: to take the place of cleanliness and care in preparing, or to permit the use of inferior products. The use of sodium benzoate is unnecessary; this has been proved for years by some of the higher-grade manufacturers of preserves and catchups, and for centuries by the housewife. But when the chemical preservative is not used, cleanliness, care and wholesome raw products must be. Those manufacturers, therefore, who would market stale meat for fresh, who would substitute canners' waste for fresh whole fruit, who look on clean factories and careful methods as a needless expense, are the ones to whom the use of benzoate of soda appeals.

Of course the findings of the board have been received with rejoicings by those who have wanted to "get Wiley's scalp." "Now Wiley will have to resign," "This ends Wiley's drastic rulings," are samples of expressions that are coming from press agents of manufacturers of inferior foodstuffs and of preservatives. The fact is, the fight on Dr. Wiley, and the powerful efforts that have been made to discredit his work and to have him officially destroyed, are solely on account of the "interests" he has offended. This he has done by opposing the "bleaching" of flour by which inferior grades would be "doctored" so as to be sold as fine grade; by objecting to the artificial "greening" of canned vegetables by means of copper salts; by insisting that alcohol mixed with burnt sugar and prune juice shall not be sold as whiskey; by requiring that the "patent-medicine" manufacturers shall tell the truth on the labels; in fact, he has offended in that he has brought the people of this country to a full realization of the amount of sophistication and adulteration that exists, or did exist, in the food products industries of the country. As an example of the opposition which the chief chemist has met, a self-styled "food expert," who sometimes signs himself H. H. Langdon and sometimes H. L. Harris, and who has done the "press agent" work of the Pacific Coast Borax Co., has attempted for years to vilify and belittle both Dr. Wiley and the work of his department. There is no doubt that as soon as the matter can be prepared, such discredited journals and papers as will accept his "reports" will publish Langdon's highly colored "original articles" based on false interpretations of the findings of the referee board.

Possibly Dr. Wiley may have overstated or overemphasized the toxicity of some of the preservatives that have been used in foods, but if he erred he did so in the interest of the public's health instead of to the benefit of the dishonest manufacturer's pocket-book. While this may be a heinous offense in the eyes of the "interests" affected, the American people will entertain

another opinion. As one paper, in speaking of the canners who are anxious to have the ban removed from benzoate of soda, says: "They would like to market stale meat, decayed fruit and half-cooked provender. And if they can turn the public off the scent of these by keeping our thoughts on the preservative instead of on the stuff preserved, they will soon be paying high dividends."

It is to be hoped that Dr. Wiley will be in no way discouraged and will remain at his post and continue to hew to the line. He is a government official of a type that happily is becoming more common—one of those men who appreciate that they represent the public and that they are expected to look after the interests of the public and not the interests of any class. He has exposed fraud connected with "patent medicines" and with the pharmaceutical business; with fruit and food-canning interests, and to him more than to any other individual or body must the credit be given for the national Food and Drugs Act. No wonder he is so cordially hated by those who heretofore fattened at the expense of public health and well-being. But the American people are with Dr. Wiley and emphatically approve of his work.

The case against benzoate of soda, from the standpoint of the man in the street, has been well summed up by Federal Judge Anderson in a suit brought by some manufacturers to enjoin the State Board of Health of Indiana from enforcing that portion of the pure food law relating to the use of this chemical: "I am impressed with the proposition that this stuff, benzoate of soda, is put in there for reasons that make its prohibition reasonable and proper—to cover up careless methods of manufacture. Dirt and insanitary conditions can be concealed by putting this stuff in. It is not necessary to put it in if the materials are properly handled. If its use conceals the fact that proper methods have not been used, a rule of the State Board of Health prohibiting its use is reasonable."

ANTIGENS AND ANTIBODIES

The discovery that the animal body reacts to the introduction of certain kinds of substances by the formation of new antibodies with specific action is one of the most important events, not only in modern medicine, but in general biology as well. Substances that cause antibodies to form are called antigens. One outstanding characteristic of all the phenomena is that the antibody reacts with the antigen in question in each particular case in a more or less specific manner. One may say that each antigen gives rise to its own antibody; this antibody usually, however, has some effect also on substances related to the antigen concerned, and this side-effect is the more marked the closer the relationship. For the purpose of this general discussion it is sufficient to point out that whether substances other than proteins can cause antibody formation is not yet settled. Concerning the antigenic power of protein-containing substances there is no question. Bacteria, bacterial products, serum, blood corpuscles and other cells, and certain vegetable and animal toxins, constitute at present the best known antigens. Exhaustive discussion of all these antigens and the corresponding antibodies is, of course, out of question in this place, but some of the general features may be considered.

In the first place, we have the question whether certain antibody effects are produced by one antibody or by more than one. The problem is best illustrated by a concrete example: When a suitable animal is injected with a quantity of dead bacteria, e. g., typhoid bacilli, or with a quantity of alien red corpuscles, the blood fluid of the injected animal soon acquires the power to agglutinate, to opsonify, to cause lysis of, and to produce precipitates with extracts from, the kind of bacteria or corpuscles injected, as the case may be. If the blood fluid possessed any or all of these properties before, they become greatly increased as a result of the injection. The question is, are all these effects produced by one or by several antibodies? The indications are that there are different antibodies, first, because there appear to be different antigens. Thus treatment of cholera vibrios with chloroform removes their agglutinogenic power while the lysinogenic power is retained. Then again the different antibody effects may not be produced in equal degree proportionately by the serum of the injected animal as would be expected if they were owing to one and the same antibody; on the other hand, the agglutinating and opsonic power may be increased greatly while the lytic power may not be increased at all, and this naturally speaks in favor of different antibodies and different mechanisms of antibody formation.

There are also certain bacteria that apparently are devoid of the power to produce lysin at the same time as they are insusceptible to lysis, while they contain the antigen that produces specific opsonin and are readily susceptible to opsonification. Streptococci, pneumococci and tubercle bacilli are examples. In this case the claim has been made that lysins may be present in the serum of the injected animal but not be demonstrable because of the physical state of the bacterium which makes it refractory to lysis. As yet this claim is without any real basis of support and the facts stated harmonize well with the conception that lysis, opsonification, etc., depend on different antibodies for the new production of which distinct antigens are required.

In the second place, the animal body responds to the action of antigens in a fairly typical and regular manner. The course of antibody formation after introduction of antigen was first determined accurately in the case of animals immunized with various toxins, more particularly tetanus and diphtheria toxins. Omitting certain other unimportant and historical details, suffice

it to say that the introduction of a single dose of active antigen into a suitable animal, the blood of which has a stationary antibody content (either normally, a common occurrence, or as the result of immunization at such time previously that a steady level has been reached), then there is first a fall in the antibody in question lasting a day or two and called the negative phase; this is then followed by a rather rapid rise above the normal or previous level, the high point being reached usually between the eighth and twelfth days, sometimes earlier in animals previously injected; a rather sharp fall now commonly takes place, but the curve is still far above normal, to which line the return is gradual and sometimes prolonged. This may be called the normal antibody curve, as it seems to answer for practically all antibodies that are formed anew under conditions that are fairly comparable, and this would indicate that there exist in the animal body well-ordered mechanisms for antibody formation. The specificity of the antibody being marked, even the fall is limited to the antibody for the antigen injected, it may be inferred that either there are many similar yet distinct mechanisms in the body or, if it concerns one general mechanism, that the kind of product delivered will depend on the nature of the stimulus or antigen.

Finally, it may be stated that in the acute, self-limited diseases, like pneumonia, erysipelas, diphtheria and others, the course of antibody formation in the typical attack with prompt recovery corresponds to that following a single introduction of antigen, at least so far as the opsonin is concerned. Viewed from this standpoint, the attack is an immunization, the regular progress of which, however, is subject to deviations when the infection is especially severe and complications arise.

WEIR MITCHELL AT EIGHTY

On next Tuesday, Feb. 15, 1909, the veteran American physician and author, Dr. S. Weir Mitchell, will reach his eightieth year. In congratulating him the medical profession at the same time felicitates itself on the greatness and versatility of the achievements of one whose name is as a household word among us.

Two facts in Dr. Mitchell's career stand out with prominence: first, that success in any field need not be despaired of because it delays its appearance until well into middle age, provided only that the waiting period has been devoted to an apprenticeship of earnest and faithful work; second, that there is no essential incompatibility between sustained literary activity, on the one hand, and high professional distinction in science, with successful medical practice, on the other. In illustration of the first point it is worthy of note that, while to a considerable circle Dr. Mitchell's literary work had been known for many years previously, it was not until the publication of his novel "Hugh Wynne," in 1897, that he first achieved an enviable recognition in the world of letters. Yet his first published work, a volume of short stories, appeared in 1880—and even that had been preceded by contributions to the magazines for nearly twenty years—and was followed with remarkable regularity by other publications.

As regards the second point, the medical profession in many countries has furnished men of attainments and eminence in literature and art; but, for the most part, their services have been lost to medicine in direct proportion as they have been gained by literature and art. In Dr. Mitchell, however, we have a conspicuous example of the fact that not only a passive interest, but an active pursuit, of science and literature can coexist with benefit to both. His contributions to medical science, and more particularly to neurology, have been both numerous and weighty, reaching on the one side to the arcana of medical science, and on the other to the most practical applications, which are typically represented in what is known all the world over as the "Weir Mitchell treatment" for nervous breakdown. Dr. Mitchell's science has undoubtedly been broadened and rendered more human by his worship at the shrine of the Muses, as his literature has been enriched by excursions into fields demanding for their portrayal a degree of scientific observation that could not have been available at the hands of one of lesser scientific and professional attainments. And the remarkable thing is that Dr. Mitchell has not devoted so very much of his time to pure literature. It has been the regularity and the quality of his application thereto, rather than its quantity, that has enabled him to achieve such a considerable measure of distinction. He has always regarded this form of mental exercise as a diversion from the grind of professional labor, writing only during the ample vacation he allows himself in the summer, and never permitting literary pursuits to interfere with professional work and practice and the duties in connection with the Carnegie Institution, the University of Pennsylvania, etc., to which the winter is entirely devoted.

Best of all, however, is the fact that to-day, at the age of 80, he is still in harness, and, so far as can be seen, with no diminution of either activity or powers. It is truly remarkable that a man keeping up in active practice should have accomplished what Dr. Mitchell has accomplished after reaching what is usually regarded as the retiring age. He was 68 when he gave us "Hugh Wynne," a novel that placed him among the first of American novelists; but he has since written "François," "Dr. North and His Friends," "Circumstance," "Constance Trescott," "Autobiography of a Quack," and, within a few weeks, his latest novel, "The Red City," besides many short stories, essays and poems.

THE JOURNAL, on behalf of the medical profession of the United States, extends to Dr. Mitchell greetings and felicitations on his eightieth birthday, with the hope that he may yet have before him many hale and happy years.

HEART HYPERTROPHY AND NEPHRITIS

Heart hypertrophy in nephritis seems always to offer problems that defy the pathologist, in spite of the abundant material that is always at hand for his study. Not only do we lack definite knowledge of the cause of the increased blood pressure which leads to the hypertrophy, but we have no consistent data as to just what sort of anatomic changes must be present in the kidney in order that heart hypertrophy may result. While the classical text-book dogma that parenchymatous nephritis leads to edema without heart hypertrophy and that interstitial nephritis leads to hypertrophy with little or no edema is correct in a considerable proportion of cases, yet the exceptions are so abundant as to make the rule of little value in explaining the relation of renal changes to heart hypertrophy. Hypertrophy accompanying typical parenchymatous nephritis is by no means rare, while even more common is the occurrence of advanced interstitial changes without hypertrophy.

Jores[1] has made a systematic study of the occurrence or absence of hypertrophy in advanced interstitial nephritis, and finds that the failure of hypertrophy is usually observed when the kidney shows the changes characteristic of that form of nephritis commonly known as the secondarily contracted kidney. In the typical red granular kidney hypertrophy is seldom missing, but even here there may be exceptions.

One hypothesis which has found considerable favor is that the degree of cardiac enlargement depends on the extent to which the glomeruli are involved, but Jores was unable to confirm this. It is, indeed, a striking fact that in amyloid kidneys, in which the glomeruli are most extensively involved, hypertrophy is almost invariably absent or slight, even when the amyloid changes are accompanied by a considerable degree of connective tissue increase and contraction. In the secondarily contracted kidney, glomerular fibrosis is usually marked, although heart hypertrophy is commonly slight or lacking. Equally inconstant is the relation between the amount of destruction oft parenchymatous tissue and the cardiac involvement.

The total failure to correlate in any constant and definite way the anatomic changes in the kidney with the heart hypertrophy leads only to the assumption that the cause of the increased blood pressure must be formed or accumulated independently of the structural alterations in the kidney, and, therefore, presumably outside the kidney. It may well be that the substances which are abnormally present in the blood in nephritis and which cause the increased blood pressure are quite distinct from the poisons that cause the kidney changes, and these both may be quite different again from the poison or poisons that cause uremia; such a view is at least in agreement with the manifest lack of correspondence in the relative intensity of these three features in cases of interstitial nephritis.

1. Verhandl. deutsch. path. Gesellsch., 1908, xii, 187.

ENTEROGENOUS CYANOSIS

Enterogenous cyanosis was first described by Stokvis of Rotterdam in 1902. The case he reported was that of a soldier who had cyanosis of four years' duration associated with chronic diarrhea. On spectroscopic examination of the patient's blood Stokvis recognized the spectrum of methemoglobin and attributed the cyanosis to the presence of this substance in the blood. In the same year Talma of Utrecht showed that the methemoglobin of enterogenous cyanosis was intracorpuscular, as distinguished from that of drug poisoning in which the methemoglobin may be found in the blood plasma. Three years later van der Bergh distinguished, for the first time, between enterogenous cyanosis due to methemoglobin and that due to sulph-hemoglobin. Solutions of sulph-hemoglobin and methemoglobin both show spectroscopically an absorption band in the red. The two bands, however, are in different positions and that of methemoglobin disappears on the addition of ammonium sulphid to the solution, while the band of sulph-hemoglobin persists. In the following year van der Bergh and Gutterinck demonstrated the presence of nitrites in the corpuscles of patients suffering from methemoglobinemia. Since nitrites are capable of converting oxyhemoglobin into methemoglobin it is probable that the methemoglobin owes its existence to the presence of nitrites in the red blood corpuscles. In a case of methemoglobinemia reported by Gibson and Douglas, a bacillus resembling the colon bacillus was obtained from the blood culture. West and Clarke, who studied a case in which the blood culture was sterile, point out the fact that this single observation of an organism in the blood should be verified before too much meaning is attached to it. In all, thirteen cases of enterogenous cyanosis have been reported, five of these being due to sulph-hemoglobin and eight to methemoglobin, though the first four cases described as methemoglobinemia were reported before van der Bergh's discovery of sulph-hemoglobinemia and may have belonged to the sulph-hemoglobin group. All the cases which were certainly methemoglobinemia were characterized by cyanosis of from three to eight years' duration, weakness, diarrhea, and in three out of the four cases, headache. In three instances nitrites were demonstrated in the blood. The cases of sulph-hemoglobinemia have been characterized by cyanosis sometimes associated with headache and weakness and always with constipation.

Medical News

DISTRICT OF COLUMBIA

Measles Epidemic.—During January, 1,210 cases of measles were reported to the District board of health, and during the last week of the month a daily average of 42 new cases developed.

Transplantation of Knee Joint.—The daily press of last week gave sensational accounts of the alleged transplantation of a leg by Dr. George Tully Vaughan. Dr. Vaughan reports

1. For the literature consult: Stokvis: von Leyden's Festschr., 1902, I, 597; Nederl. Tijdschr. v. Geneesk., 1902, ii, 678.
Talma: Berl. klin. Wchnschr., 1902, xxix, S., 865; Nederl. Tijdschr. v. Geneesk., 1902, ii, 721.
van der Bergh: Deutsch. Arch. f. klin. Med., 1905, lxxxiii, 86; van der Bergh and Gutterinck: Berl. klin. Wchnschr., 1906, S. 7; Gibson and Douglas: Lancet, London, 1906, I, 72; West and Clarke: Lancet, London, 1907, I, 272.

that the case was not intended for publication, even in medical journals, until the results had been ascertained. The operation consisted of the exsection of a tuberculous knee joint from a man, including the lower end of the femur and upper end of tibia without the patella, replacing these structures with the corresponding length of knee-joint obtained from a recent corpse. The bones were united with iron wire and part of the periosteum and fascia were united with catgut sutures. The operation was done January 24, and the patient is reported as doing well so far. The joint removed was suppurating and this has continued, but with signs of cessation. Dr. Vaughan states that, of course, it is too early to call the operation a success.

GEORGIA

Ultimatum to Insurance Companies.—The physicians of Elbert county, with one exception, have agreed that, beginning March 1, they will not make examinations of any kind for any insurance company for less than $5.

New Medical Staff.—The new medical staff of Grady Hospital, Atlanta, consists of six appointees from the Atlanta College of Physicians and Surgeons, six from the Atlanta School of Medicine, six from the city at large, and an associate medical board of four members.

Personal.—Drs. Samuel S. Gaulden, Quitman, and John L. Walker, Waycross, have been appointed members of the State Board of Medical Examiners.——Dr. William C. Lyle has been elected city chemist and bacteriologist of Augusta.——Dr. Walter C. Bryan, Douglas, is said to have given up the practice of medicine to enter the Atlanta Law School.

Medical Legislators.—There have been elected to the senate of Georgia the following practitioners: Drs. J. L. McClain, Glennville, from the second district, and Robert Y. Rudicil, Summerville, from the forty-second district. The following physicians are members of the house of representatives: Drs. George L. Paulk, Allapaha; W. E. Beacham, Pinehurst, George Brown, Atlanta; Albert S. J. Stovall, Elberton; O. O. Simpson, Norcross; Lamartine G. Hardman, Commerce; H. L. Culberson, Lincolnton; Samuel A. Brown, Eton; William T. Rogers, Coleman; Augustus R. Wright, Brooklyn; James L. Kennedy, Manassas; William H. Hendricks, Tifton; James F. Johnson, Hiawassee; T. N. Berry, Blairsville; James W. Smith, Monroe, and John H. Alley, Nacoochee.

Sanatorium Board Named.—The following physicians have been named by the governor as members of the board of trustees or managers for the State Sanatorium for the Treatment of Tuberculosis: First district, Dr. P. S. Clark, Darien, McIntosh county; second district, Drs. Everett Daniels, Moultrie, Colquitt county, and Robert C. Woodard, Adel, Berrien county; third district, Dr. Charles H. Richardson, Montezuma, Macon county; fourth district, Dr. Henry R. Slack, Lagrange, Troup county; fifth district, Dr. Thomas R. Whitley, Douglasville, Douglas county; sixth district, Dr. Marcus F. Carson, Griffin, Spalding county; seventh district, Dr. Charles F. McLain, Calhoun, Gordon county; eighth district, Dr. William I. Hailey, Hartwell, Hart county; ninth district, Dr. Jeff Davis, Toccoa, Stephens county; tenth district, Dr. William B. Crawford, Lincolnton, Lincoln county, and eleventh district, Drs. Judson A. Butts, Brunswick, Glynn county, and Wade H. Born, McRae, Telfair county.

ILLINOIS

To Select County Officer.—An examination for chief of the medical staff of the Dunning institutions will be held March 2 and 3 at the Cook County Building, Chicago. The salary is $2,500, with board, room and washing.

Exonerated on Murder Charge.—In the Franklin County Circuit Court in Benton, February 2, Dr. Benjamin F. Brayfield, Mulkeytown, was exonerated of the charge of causing the death by poison of Reuben F. Parrish, of that place.

Verdict Against Physician.—In the suit for $25,000 damages, brought by Edward L. O'Neil against Dr. Lars P. Jacobson, Kankakee, in which malpractice in a case of varicocele was claimed, the jury is said to have rendered a verdict in favor of the plaintiff and awarded $400 damages.

Chicago

Money for Charity.—In the recent entertainment given at the Colonial Theater for the benefit of the Chicago Charity Hospital, over $1,500 was netted.

Contagious Disease Situation.—The contagious disease mortality is at present lower than during the corresponding period of last year. There were 25 deaths during the week ended February 6, from diphtheria, scarlet fever, measles and whooping cough, which compares favorably with 29, the number reported for the preceding week, and 28, the number for the corresponding week of 1908. During the week 19 fewer cases of diphtheria and 15 fewer cases of scarlet fever were reported, but an increase of 45 cases of measles was noted. Two unvaccinated children suffering with smallpox were removed to the Isolation Hospital.

American School Hygiene.—The third congress of the American School Hygiene Association is to be held in Chicago February 22-25. The meeting will be held with that of the Division of School Superintendents of the National Educational Association. On the first day there will be a meeting of the executive committee and the council. On February 23 the president, Dr. Henry P. Walcott, chairman of the Massachusetts State Board of Health, will deliver his annual address, and the Committee on the Status of Instruction in Hygiene in the Schools and Colleges of America will make its report, and during the three days of the active meeting many papers will be presented by prominent educators and professional men, dealing with school hygiene, prophylaxis and medical inspection.

Darwin Centenary.—Darwin anniversary addresses are being given under the auspices of the Biological Club of the University of Chicago. The lectures are open to the public, and the following are the remaining lectures of the course:

February 17.—"Variation and Heredity." Prof. W. L. Tower.
February 18.—"The Interpretation of Environment." Prof. H. C. Cowles.
February 24.—"Darwinism and Political Science." Prof. C. E. Merriam.
February 25.—"Human Evolution—Physical and Social." Dr. George A. Dorsey.
March 3.—"The Influence of Darwinism on Psychology." Prof. J. R. Angell.
March 4.—"The Theory of Individual Development." Prof. F. R. Lillie.
March 10.—"The Evolution of Religion." Prof. Shaller Mathews.
March 11.—"Darwinism and Experimental Methods in Botany." Prof. D. T. MacDougal.
March 17.—"Evolution in Language and in the Study of Language." Prof. C. D. Buck.
March 18.—"Selection, Mutation, and Orthogenesis." Prof. C. O. Whitman.

KANSAS

Election.—At the annual meeting of Edwards County Medical Society the following officers were elected: President, Dr. Elmer E. Haynes, Lewis; vice-president, Dr. Prince A. Pearson, Kinsley; secretary, Dr. C. W. Rairdon, Lewis; treasurer, Dr. W. P. Stollenberger, Kinsley; delegate to the state medical society, Dr. Monroe De Tar, Kinsley; censors, Drs. Will L. Borst, Belpre; C. W. Rairdon, Lewis, and Prince A. Pearson, Kinsley.

MAINE

Fire in Hospital.—On January 17, with a temperature far below zero in a raging blizzard, the Trull Hospital, Biddeford, was destroyed by fire. By the exertion of the nurses and house staff, the fifteen patients were removed without casualty. The loss is estimated at $40,000.

Personal.—Dr. Horace K. Richardson, Bradford, has recovered from his operation for appendicitis and resumed practice.——Drs. Paul S. Hill, Fitz E. Small, Clarence F. Kendall, H. Willis Hurd, Eugene D. O'Neil, Biddeford, and Dr. Laura M. Black, Saco, have resigned as members of the staff of the Webber Hospital, Biddeford.

Medical Society News.—At the January meeting of Kennebec County Medical Association, held in Augusta, it was voted to adopt the standard constitution. Drs. Luther G. Bunker, Waterville, and Fred. E. Strout, Gardiner, were selected as delegates to the state medical association, and Drs. Mathew S. Goodrich, Waterville, and Alton Sawyer and Wooster P. Giddings, Gardiner, were elected censors.——At the fifty-fifth annual meeting and banquet of the York County Medical Society, held in Biddeford, the members of the Cumberland County Medical Society and the Clinical Club of Portsmouth, N. H., were the guests of honor. The old officers were re-elected.

MARYLAND

Personal.—Dr. J. Percy Wade, superintendent of the Maryland Hospital for the Insane, Catonsville, sailed for the Mediterranean and Egypt January 27.——Dr. Taylor E. Darby has returned from the Canal Zone and will resume practice in Barnesville.——Dr. Gordon T. Atkinson, Crisfield, formerly comptroller of the state, is ill with bulbar paralysis at the University Hospital, Baltimore.

Antituberculosis Association.—At the meeting of the Maryland Association for the Prevention and Relief of Tuberculosis, February 4, Dr. H. Barton Jacobs, Baltimore, was re-elected president. The receipts for 1908 were $13,932 and the expenditures $12,196. The tuberculosis exhibit was shown in twenty-five different localities during the year, and was seen by about 100,000. An average of four lectures was delivered at each place and twenty public addresses were also made. It was decided that on account of the growth of the work a committee should be appointed to appeal to the city and state for a fund for its continuance.

Baltimore

The Frick Collection.—The report of the Frick Collection, a department of the library of the Medical and Chirurgical Faculty of Maryland for 1908, shows that the collection now numbers 3,368 volumes. During the year 152 volumes were purchased, and 99 volumes were donated to the collection. There were 4,358 readers during the year and 1,541 books were borrowed for home use. The receipts were $1,038.86, and there was a balance on hand January 1 of $830.36.

Personal.—Dr. Alexius W. McGlannan has been appointed chief surgeon of the First Brigade, Maryland N. G., vice Dr. Isaac R. Trimble, deceased.——Dr. William Osler, who is now in Italy, expects to attend the dedication of the new building of the Medical and Chirurgical Faculty of Maryland, May 13 and 14.——Dr. William G. MacCallum, assistant professor of pathological physiology at Johns Hopkins Medical School, has been elected a member of the faculty of medicine of Columbia University, New York City, vice Dr. T. Mitchell Prudden.——Drs. Thomas S. Cullen, Guy L. Hunter, Richard H. Follis, Josiah M. Slemons, J. Staige Davis and Frank R. Smith have been appointed members of the executive committee of the Church Home and Infirmary .

MASSACHUSETTS

Personal.—Dr. Francis H. Davenport, Brookline, has sailed for Europe.——Dr. George W. Dow has been appointed city physician of Lawrence and Dr. Peter McKallagatt a member of the Lawrence board of health.

Council Meeting.—At the meeting of the Council of the Massachusetts Medical Society, February 3, Drs. John L. Morse, Boston; Robert P. M. Ames, Springfield, and Charles E. Durant, Haverhill, were elected delegates to the American Medical Association, Dr. Frederick J. Ripley, Brockton, alternate; Drs. Leonard Huntress, Lowell, and John F. Croston, Haverhill, delegates to the Maine Medical Association; Dr. Henry Colt, Pittsfield, was elected delegate to the Connecticut Medical Society; Drs. Godfrey Ryder, Malden, and Henry S. Kilby, North Attleboro, were elected auditors for the treasurer's accounts. The Committee on Ophthalmia Neonatorum reported that it favored the distribution of circulars relative to the diseases, and it was voted to place these circulars in the hands of nurses, and to send them to all members of the society. It was voted to increase the number on the Committee on the Investigation of Contract Work, which is now composed as follows: Drs. William A. Dolan, Fall River; J. Arthur Gage, Lowell; Charles E. Durant, Haverhill; Amasa E. Paine, Brockton, and John W. Spooner, Hingham. Dr. George W. Gay, Boston, for the Committee on State and National Legislation, reported that thirty bills of medical interest had been introduced in the legislature. One of these bills, which is to combine the boards of registration in medicine, dentistry, veterinary medicine, pharmacy and embalming, with the appointment of one man with a salary of $1,500 per annum to act as commissioner, is considered as against public policy, and it was voted unanimously to send a remonstrance to the legislature. Dr. Frank G. Wheatley, North Abington, was elected to fill the vacancy on this committee caused by the death of Daniel D. Gilbert, Boston. At the suggestion of the Committee on Pharmacy of the American Medical Association the following committee was elected to consider the preparation of the next issue of the United States Pharmacopeia and prepare suggestions for the convention of 1910: Drs. Frank G. Wheatley, North Abington; William P. Bolles, Roxbury; Maurice V. Tyrode, Boston.

MISSOURI

State Board Election.—The secretary of the State Board of Health of Missouri announces that at the election held January 6, in Jefferson City, Dr. Albert H. Hamel, St. Louis, was elected president; Dr. Ira W. Upshaw, St. Louis, vice-president; and Dr. James A. B. Adcock, Warrensburg, secretary.

Personal.—Dr. Joseph W. Greene, Independence, has been appointed secretary of the Jackson County Board of Health.——The office of Dr. Thomas N. Bogart, Excelsior Springs, was damaged by fire January 26, to the extent of about $4,000.——The house of Dr. Colburn H. Wilson, St. Louis, was damaged by fire January 30, to the extent of $3,800.——Dr. Francis B. Odell, Kansas City, has been made medical director of the Great American Life Insurance Company, vice Dr. Hal P. Wells, St. Louis, resigned.

Hospital Notes.—The directors of the German Hospital Association, Kansas City, announced at the annual meeting that it was practically decided that the present hospital buildings are to be substituted by new and more modern buildings at a cost of $75,000. During the year 782 patients were admitted to the hospital, 68 of whom were charity patients.——An agreement filed at the recorder's office, St. Louis, January 25, reveals the reason why the St. Louis Skin and Cancer Hospital will not erect its new building on Forest Park boulevard. The hospital is to receive $500 from the Forest Park Residents' Association, and in return therefor agrees not to build within the district.

St. Louis

Reprint Collections.—In 1906, Dr. George Homan, then president of the St. Louis Medical Society, laid before that society the suggestion that every member who had contributed papers on scientific subjects for publication in any medium should present to the society a complete set of his reprints, and should continue to present a reprint of any article published by him in the future. It was further suggested that if the project were well received by the members, its scope might be enlarged, and all prominent medical writers be invited to add their contributions. This proposition was at once acted on, and the collection has now attained considerable proportion. The report of the reprint collection of the St. Louis Medical Society for 1908 shows an array of titles on a wide variety of subjects, and by a large number of authors. The library committee desires the enlargement of scope foreshadowed in the original recommendation and will be glad to receive reprints from authors not members of the St. Louis Medical Society. These should be addressed to the Library Committee, 3523 Pine Street, St. Louis. The value of such collections is evident and the plan is worthy of imitation.

MONTANA

Society Meeting.—At the annual meeting of Park County Medical Society, held in Livingston, January 12, Dr. Byron L. Pampel, Livingston, was elected president; Dr. Frederick Cuttle, Hunters' Hot Springs, vice-president; and Dr. John B. Beeson, Livingston, secretary.

Personal.—Dr. Louis E. Safley, Livingston, has recovered from injuries received in a recent automobile accident.——Dr. B. Consler, formerly of Glendive, has been elected physician of Dawson county.——Dr. Lillian Miller, Billings, has been selected as physician of Yellowstone county.

Communicable Diseases.—Smallpox is reported to have broken out in the construction camp at Garrison.——Scarlet fever is said to be spreading rapidly throughout Anaconda.——It is reported that there are at least twenty cases of scarlet fever in Great Falls, and a number of deaths have already resulted from the disease.

NEBRASKA

Personal.—Dr. Archibald L. Muirhead, Omaha, has been elected a member of the board of secretaries of the State Board of Health, vice Dr. George H. Brash, Beatrice.——Dr. G. L. Row has succeeded Dr. Frank E. Osborn as superintendent of the State Institution for Feeble-Minded, Beatrice.——Dr. Harry L. Wells, West Point, has declined the appointment of assistant physician at the State Hospital for the Insane, Norfolk.

Society Meetings.—At the annual meeting of the Elkhorn Valley Medical Association, held in Norfolk, January 19, the following officers were elected: President, Dr. Joseph M. Aikin, Omaha; vice-presidents, Drs. A. B. Tashjean, Norfolk, and Czar C. Johnson, Creighton; secretary, Dr. William R. Peters, Stanton, and treasurer, Dr. Walter H. Pilger, Norfolk. The midsummer meeting of the association will be held in Fremont.——The annual meeting of Johnson County Medical Society was held in Tecumseh, and the following officers were elected: Dr. George J. Rubelman, Tecumseh, president; Dr. J. L. Archerd, Cook, vice-president; and Dr. Albert P. Fitzsimmons, Tecumseh, secretary-treasurer and delegate to the state medical society.——Madison County Medical Society, at its annual meeting in Norfolk January 19, elected Dr. Alexander Baer, president; Dr. J. H. Mackay, vice-president, and Dr. Walter

H Pilger, secretary-treasurer, all of Norfolk.——At the annual meeting of Dodge County Medical Society, held in Fremont, January 15, Dr. Charles Inches, Scribner, was elected president; Dr. Daniel G. Golding, Fremont, vice-president; Dr. Hamilton N. Morrow, Fremont, secretary; Dr. Robert C. McDonald, Fremont, treasurer; Dr. Leander B. Smith, Fremont, censor; Dr. Charles R. Byers, Nickerson, delegate to the state medical society, and Dr. John J. Metzinger, Fremont, alternate.——Dr. J. Lue Sutherland has been elected president, Dr. Phelan vice-president, Dr. George Roeder treasurer, and Dr. B. L. McGrath, secretary of Hall County Medical Association.

NEW HAMPSHIRE

The State Sanatorium.—Work on the State Sanatorium for Tuberculosis, now being constructed at Glen Cliffe, will be completed by February 15. The original appropriation of $50,000 has been expended and the legislature has been asked for a second appropriation of $35,000. The work now in hand includes an administration building, power hourse, a ward to accommodate 20 patients, and provision for adequate water supply. The state owns 400 acres of land and has option on several hundred acres more for the use of the institution.

Personal.—Dr. Henry B. Quinby, Laconia, has been elected governor of New Hampshire.——Dr. Gustav Lafontaine has succeeded Dr. Joseph E. A. Lanouette as a member of the board of health of Manchester.——Drs. Elmer M. Miller, Woodsville, and Charles A. Fairbanks, Dover, are members of the state legislature and of the committee of public health of that body; Dr. Henry W. Boutwell, Manchester, is a member of the governor's council from the second district.——Dr. Jacob H. Gallinger, Concord, has been re-elected United States Senator for the fourth term.

Society Meetings.—Nashua Medical Association, at its annual meeting, elected the following officers: President, Dr. Alonzo S. Wallace; vice-presidents, Drs. Henry O. Smith and William E. Reed; secretary, Dr. Eva M. Locke; treasurer, Dr. Arthur L. Wallace; and historian, Dr. Charles B. Hammond.——Grafton County Medical Society, at its annual meeting, elected Dr. George W. Hazelton, Haverhill, president; Dr. Milton S. Woodman, West Lebanon, vice-president; Dr. George A. Weaver, Warren, secretary-treasurer; Dr. William T. Smith, Hanover, delegate to the state medical society; Dr. Charles R. Gibson, Woodsville, alternate, and Dr. Arthur T. Downing, Littleton, censor.——The eighty-seventh annual meeting of the Center District Medical Society and Merrimack Valley Medical Society was held in Concord January 12. The following officers were elected: President, Dr. John W. Staples, Franklin; vice-president, Dr. Arthur K. Day, Concord; secretary-treasurer, Dr. Pearl T. Haskell, Concord; delegates to the state medical society, Drs. Edmund E. Hill, Suncook, and Sibley G. Morrill, Concord; censors, Drs. Charles H. Dolloff, Concord, Anna M. Littlefield, New London, and Charles H. Quinn, Concord.

NORTH CAROLINA

Fire in Hospital.—The building temporarily occupied as St. Agnes' Hospital for Negroes, Raleigh, was seriously damaged by fire February 3. The 25 patients were all removed without casualty.

Coming Meeting.—The eleventh annual session of the Tri-State Medical Association of the Carolinas and Virginia will be held in Charleston, S. C., February 16 and 17, under the presidency of Dr. Albert Anderson, Raleigh, N. C. Dr. J. Howell Way, Waynesville, N. C., is secretary-treasurer of the association.

Personal.—Dr. Frank H. Russell, Wilmington, examiner in surgery for the North Carolina State Board of Medical Examiners, will locate at Thomasville, Ga.——Dr. Charles H. C. Mills, Charlotte, has returned after several months of postgraduate work in the east.——Drs. John K. Ross, Charlotte, and Julian G. Busby, Spencer, are taking postgraduate work in New York City.

Treatment of Tuberculosis in the City.—A suit of importance to those concerned in the treatment of tuberculosis was heard at Asheville recently, in which the right of a body of Roman Catholic Sisters to maintain a sanatorium for tuberculosis in the residential district of the city was questioned. The point at issue is whether or not residents or property owners of a district can prevent the establishment or maintenance of a tuberculosis sanatorium close to them, on the ground that infection may be communicated thereby. A temporary injunction was granted, and arguments will be heard later in regard to making the injunction permanent.

To Prevent Licensing of Illiterate and Irregular Practitioners.—The legislative committee of the state medical society will make vigorous effort to prevent the proposed licensing of a number of irregular and illiterate practitioners by a special act of the present legislature. It is claimed by the political friends of the irregulars that they will practice in remoter localities where regular practitioners will not care to practice nor reside. This specious argument has been used often with partial success before previous legislatures, especially when the legislative committee of the state society was not on the alert, but it is well understood that the mountainous section of the state is especially well provided with physicians, and that these sections of the state are especially suited for tuberculous patients.

Society Meetings.—At the annual meeting of the Fifth District Medical Society in Fayetteville, January 26, Dr. William T. Pate, Gibson, was elected president, and Drs. Arthur B. Croom, Maxton, and Joseph W. Halford, Chalybeate Springs, were re-elected secretary and treasurer respectively.——At the December session of the Lenoir County Medical Society, held in Kinston, Dr. Claude L. Pridgen, Kinston, was elected president; Dr. J. W. P. Smithwick, La Grange, vice-president; Dr. Albert DeK. Parrott, Kinston, secretary; Dr. Richard W. Wootten, Kinston, treasurer, and Dr. James M. Parrott, Kinston, delegate to the state society.——Wayne County Medical Society, at its annual meeting held in Goldsboro, elected the following officers: President, Dr. R. E. Lee; vice-president, Dr. Theodore L. Ginn; secretary-treasurer, Dr. J. Rainey Parker; delegate to the state society, Dr. Marius E. Robinson; and censors, Drs. William H. H. Cobb, Marius E. Robinson, all of Goldsboro, and Dr. James W. Kornegay, Mount Olive.

NEW JERSEY

Diphtheria Epidemic.—Diphtheria is reported in the State Village for Epilepties, Skillman, where 11 cases have occurred.——Owing to the prevalence of diphtheria among its nurses, the Mountainside Hospital, Montclair, was temporarily closed January 22.

Abortionist Sentenced.—Dr. Herman A. Glatzmeyer, Newark, is reported to have been convicted of manslaughter in having caused the death of Miss Mary Vliet, Blairstown, Pa., by a criminal operation, and to have been fined $1,000 and sentenced to five years at hard labor in the state prison.

Home for Incurables.—A movement is being made to establish a home for incurables at Atlantic City, to be maintained by private subscription and state appropriation. Drs. Edward Guion, Philip Marvel, W. Blair Stewart, Elisha C. Chew and Milton L. Munson are the medical members of the board of directors.

Personal.—Drs. Edward J. Ill and Charles J. Kipp have resigned as members of the medical staff of the German Hospital, Newark.——Dr. Alvah C. Van Syckle, Hackettstown, has been seriously ill with an infected wound of the hand.——Dr. Isaac N. Griscom has been elected medical inspector of the Ocean City Board of Health.

County Society Election.—At the annual meeting and election of Atantic County Medical Society, held in Atantic City, January 8, the following officers were elected: President, Dr. Clyde M. Fish, Pleasantville; vice-president, Dr. Thomas G. Dunlap; secretary-treasurer, Dr. W. Price Davis; reporter, Dr. Theodore Senseman; censor, Dr. Walter Reynolds, and delegates to the state society, Drs. Arthur E. Ewens and Edward S. Sharpe, all of Atlantic City.

Newark Library of Medicine.—The medical library established by the physicians of Newark is just beginning its fourth year. The members of the medical library association each pay dues of $3, which amounts to nearly $500 annually, and this has been expended in the purchase of the latest medical books and in subscriptions to the medical journals. The library now contains about 500 volumes and also about 200 unbound volumes of the medical journals of the United States and the Continent. The secretary of the association is Dr. Frank W. Pinneo.

Vital Statistics for 1908.—The annual report of the State Board of Health shows that tuberculosis was the most fatal of all diseases in the state, but that the deaths from this cause were not increasing in proportion to the population. Deaths from cancer showed an increase. There were 387 suicides in the state in 1908, an increase of 40 as compared with the previous year, and 65 as compared with the seven years' average. Of the suicides, 142 were by poison, 111 by gunshot wound, 54 by strangulation, 4 by asphyxiation, 18 by cutting instruments and 16 by drowning.

January Mortality.—During the month ended January 15, 3,164 deaths were reported, a decrease of 117 from the cor-

responding period of last year. Of these, 602 were of infants under 1 year, 267 of children between 1 and 5 years, and 982 of individuals 60 years old or over. Pneumonia, cancer, and suicides show a decided increase. The chief death causes were diseases of the circulatory system, 395; diseases of the nervous system, 380; tuberculosis, 379; pneumonia, 355; diseases of the respiratory system (excepting pneumonia and tuberculosis), 225; nephritis, 205; diphtheria, 65; measles, 33; scarlet fever, 23; typhoid fever and whooping cough, each, 21; and cerebrospinal meningitis, 15.

NEW YORK

Medical Expert Bill.—A bill designed to remedy the evils connected with medical expert testimony, which has been approved by the State Bar Association and the leading medical societies of the state, will be sent to the legislature at once. It is given in the Correspondence Department in this issue.

Personal.—At the last meeting of the trustees of Cornell University, Dr. Graham Lusk was appointed professor of physiology in the medical school. From 1891 to 1898 Dr. Lusk was professor of physiology in the Yale Medical School, and thereafter until the present time he held a similar chair in the University and Bellevue Hospital Medical College.——Dr. A. L. Benedict has resumed practice in Buffalo.

Red Cross Stamp Proceeds.—The Red Cross stamp committee announces that the receipts from the sale of these stamps in New York county were $11,270, of which sum $5,000 is pledged to the Red Cross day camp for tuberculosis patients on the roof of the Vanderbilt Clinic, $1,000 has been given to help defray the expenses of the Tuberculosis Exhibit at the American Museum of Natural History, and the remainder will be duly assigned to day camp needs.

Physical Defects of Truants.—A recent report of Dr. Frederick J. Mann, inspector of schools of Poughkeepsie, shows that a great majority of truants and of the children who fail of promotion do so because of their physical condition. In the case of the 103 scholars referred for physical defects the total amount of time lost in their school life amounts to 135 years. Of these scholars 15 classed as truants have been retarded 24 years in their school life. Practically every truant he has inspected has had physical defects of the eye, ear or throat.

Release of Insane Patients.—Dr. Robert L. Lamb, superintendent of the Matteawan State Hospital, has collected and classified in his annual report 43 habeas corpus cases. Of these 43 individuals, 27 had committed criminal acts directly against persons, 12 being charged with murder in the first degree. Dr. Lamb recommends some modification of the present law whereby lunatics charged with serious crimes may be dealt with by a tribunal having fixed individual responsibility. Juries are not to be relied on as the findings are universally in favor of the lunatic without regard to his previous history. Dr. Lamb suggests that releases from a hospital should be made in the same way as commitments are now made.

Marriages Decrease.—The statistics of the State Health Department show that there was a marked falling off in the number of mariages during 1908. The number for 1907 was 96,216, and for 1908 only 74,000. This decrease is attributed to the Cobb marriage license law, which went into effect about a year ago. There has been also a lowering of the death rate. The rate was 16.2 per thousand of population, the lowest for a score of years. For the last five years the average death rate was 17.2. Cancer shows a rapid increase as a cause of death. Rochester showed the lowest death rate of any of the larger cities. Schenectady showed a rate lower than 14 per thousand population, which statisticians have said could not be lowered. There has been an increase of births over that of 1907, but provisions have not been made for their accurate recording in all localities.

New York City

Museum of Safety and Sanitation.—Plans are being made along practicable lines to prevent the enormous loss of life and limb through the Museum of Safety and Sanitation, where the safety devices for dangerous machines, and preventable methods of combating dread diseases may be demonstrated. The committee on plan and scope of this work includes Dr. Thomas Darlington, commissioner of the health department of the city.

St. John's Guild.—The annual report of this organization shows that a total of 1,339,214 mothers and children have been cared for during the 42 years the guild has been working. During the summer of 1908 the floating hospital made 49 trips and carried a total of 44,414 women and children. The Seaside Hospital admitted 2,210 women and children during the year. The endowment of the guild now amounts to more than $100,000 and there is $100,000 in the hands of executors which will soon be added to the endowment fund.

Personal.—Dr. William T. Bull has arrived at Wymberly, Ga., where he expects to spend some weeks. He stood the journey well.——Dr. John Winters Brannan, president of the board of trustees of Bellevue and the allied hospitals, whose term had expired, has been reappointed a member of the board.——Dr. William G. MacCallum, professor of pathologic physiology at Johns Hopkins University, has been elected to the faculty of medicine of Columbia University to succeed Dr. T. Mitchell Prudden, who will retire at the end of the present academic year.

Fewer Typhoid Cases.—According to the figures of the New York Health Department, there were during the last year in Manhattan 1,455 cases of typhoid fever, of which 256 resulted fatally, as compared with 2,387 cases and 372 deaths during 1907. Dr. W. L. Hubbard of the department of communicable diseases says that, while the decrease may be only accidental, he is inclined to attribute it to the efforts of the department in spreading information concerning the causes of the disease and the methods of prevention. This information might also make the public more careful in the selection of summer resorts.

Hospital News.—The report of the Volunteer St. Gregory's Hospital, which is under the control of the Salvation Army, shows a deficit for the year of $2,945. During the year 16,302 patients passed through the hospital and 31,409 treatments were given in the dispensary.——A special performance of Faust was given at the Metropolitan Opera-House for the benefit of the French Hospital, at which over $13,000 was realized.——According to the will of Max Freund, Mount Sinai Hospital is to receive $1,000, the Montefiore Home $500, the United Hebrew Charities, $500.——The will of the late Charles Mayer bequeathes the United Hebrew Charities $5,000, Mount Sinai Hospital $3,000, Lebanon Hospital $1,500, Montefiore Hospital $3,000, and the Presbyterian Hospital $1,000.

Course of Lectures.—Columbia University has instituted a course of lectures on sanitary science and public health, to be delivered Mondays and Wednesdays during February, March and April at the College of Physicians and Surgeons. Some subjects have been: February 1, "The Rise and Significance of the Public Health Movement," by Prof. William Thompson Sedgewick, Ph.D., Boston; February 3, "The Great Pathologic Discoveries and their Bearing on Public Health Problems," by Dr. J. George Adami, McGill University; February 8, "Sanitary Science: The Control of Environment," Professor Sedgewick; February 10, "Modes of Transmission and Methods of Prevention of Communicable Diseases," Dr. William Hallock Park, director of the research laboratories of the New York City Health Department.

Lectures on Infant Feeding and Hygiene.—The Association of Physicians of the New York City Milk Depots, a group of twenty-nine practitioners, who are attending to the feeding and instructional work in connection with the milk station of the New York Milk Committee, have arranged the following series of lectures on "Infant Feeding and Infant Hygiene," to be held in the United States Charities Building, 105 East Twenty-second street, during this month, March and April:

"General Principles of Infant Feeding," Dr. Godfrey R. Pisek, February 19.
"Value of Fats in Infant Feeding," Dr. John Howland, March 3.
"Infant Feeding, Its Relation to Infant Mortality," Dr. Joseph E. Winters, March 13.
"Value of Carbohydrates in Infant Feeding," Dr. Henry D. Chapin, March 26.
"Milk Sanitation," Dr. Rowland G. Freeman, April 14.
"Hygiene of Infancy," Dr. William P. Northrup, April 23.
"Dietary of Children After the First Year," Dr. Linnæus E. LaFetra, April 30.

OHIO.

Postgraduate School.—Youngstown Postgraduate School of Medicine and Surgery has been organized with the object of the furtherance of the work in medicine and surgery, with the following officers: President, Dr. Howard B. Hills; vice-president, Dr. Arba S. Green; secretary-treasurer, Dr. Thomas J. Arundel; professor of anatomy, Dr. John MacCurdy, and assistant professor of anatomy, Dr. Harry McGarvey.

Personal.—Dr. and Mrs. William B. Van Norte, Lima, are spending the winter in Miami, Fla.——Dr. Stirling B. Taylor has been elected health officer of Columbus, vice Dr. Elmer G. Horton.——Dr. J. Morton Howell and Daniel E. Miller, Dayton, are about to take a trip to Hawaii.——Dr. R. C. Stockton Reed is said to be critically ill at the home of his son in Stockton.——Dr. Jesse J. Magruder, Columbus, was operated on for appendicitis January 7.——Dr. Frank E. Kitzmiller, health officer of Piqua, has been appointed local registrar of the State Board of Health.

Elections.—At the annual meeting of the Toledo Academy of Medicine, January 8, Dr. James A. Duncan was elected president; Dr. Walter W. Brand, vice-president; Dr. Charles F. Tenney, secretary; Dr. Lewis F. Smead, treasurer; Dr. Edwin D. Tucker, financial secretary, and Dr. Charles N. Smith, censor.——At the annual banquet and election of the Dayton Academy of Medicine, January 11, Dr. Herbert C. Haning was elected president; Dr. Charles H. Tate, vice-president; Dr. Arthur O. Peters, secretary; Dr. Harry S. Patten, treasurer, and Dr. Henry D. Rhinehart, censor.

State Examining Board Meeting.—At the January meeting, in Columbus, the State Board of Medical Examiners revoked the certificate of G. E. Kimber, Toledo, and postponed action on the cases of Pyle and McLaughlin, Canton, charged with advertising in a manner objectionable to the profession, of J. G. Colton, Cleveland, who was sentenced to a term in the workhouse on a charge of misusing the mails, of Dr. Isaac T. Evans, Columbus, alleged to have assisted a private concern in representing that tuberculosis can be cured, and of Dr. L. T. Mahon, Toledo, charged with a similar offense.

Cincinnati

Tag-Day Receipts.—The receipts of "Tag Day" in Cincinnati, January 9, for the benefit of the Day Camp Fund for Tuberculosis, are said to have aggregated $10,000.

Personal.—Dr. Miram Schaar has been made chief of the district nursing under the board of health.——Dr. Albert Faller has been chosen to replace Dr. Benjamin F. Lyle as resident physician and superintendent of the Branch Hospital.

Elections.—At the annual meeting of the Alumni Association of the Medical College of Ohio, January 21, the following officers were elected: President, Dr. Clement C. Fihe; vice-presidents, Drs. William Mithoefer, John P. Miller and Charles T. Souther; secretary, Dr. Sidney Lange, and treasurer, Dr. William H. Streitmann.——At the annual meeting of the Cincinnati Academy of Medicine, held January 4, the following officers were elected: President, Dr. Rufus B. Hall; vice-presidents, Drs. Samuel E. Allen and Edward S. McKee; secretary, Dr. E. Otis Smith; treasurer, Dr. Alexander J. Drury; censor, Dr. John E. Griewe, and librarian, Dr. Arch I. Carson.

OKLAHOMA

Medical Societies.—Alfalfa County Medical Society met at Helena January 19 and elected Dr. Wilson M. Bassett, Jet, president; Dr. Benjamin E. Briscoe, Cherokee, vice-president; Dr. Edward D. Ebright, Carmen, secretary-treasurer; Dr. Jerry E. Vanderpoel, Carmen, censor, and Dr. Thomas A. J. Rhodes, Goltry, delegate to the state society.——Texas County Medical Society, at its annual meeting, held in Guymon January 26, elected Dr. J. M. McMillin, Goodwell, president; Dr. William H. Langston, Guymon, vice-president; Dr. Rutherford B. Hayes, Guymon, secretary-treasurer; and Dr. J. D. F. Gage, Hooker, censor.——Under the direction of Dr. Abraham L. Blesh, Guthrie, district councilor, the physicians of Kay county, on December 10, organized a county society, tributary to, and affiliated with the state and national organizations. Organization was effected by the election of the following officers: Dr. William A. Phillips, Newkirk, president; Dr. Arthur S. Risser, Blackwell, secretary, and Drs. Virgil A. Wood, Blackwell, William M. Johnson, Peckham, and William A. T. Robertson, Ponca, censors. At the annual meeting of the society, held January 14, at Newkirk, the following officers were elected: Dr. Alonzo P. Gearhart, Blackwell, president; Dr. William M. Johnson, Peckham, vice-president; Dr. Arthur S. Risser, Blackwell, secretary; Dr. Otis T. Morey, Ponca, treasurer; Drs. George E. Martin, Newkirk, H. M. Stricklin, Tonkawa, and Edgar J. Orvis, censors, and the president and vice-president, delegates to the state association.——The fourteenth annual session of the Oklahoma Central Medical Association was held in Enid January 12. Dr. Everett S. Lain, Oklahoma City, was elected president; Dr. Arthur B. Cullom, Hennessey, vice-president, and Dr. Edward D. Ebright, Carmen, secretary-treasurer. The next meeting of the association will be held at Oklahoma City in April.——Oklahoma County Medical Society, at its annual meeting in Oklahoma City, elected the following officers: President, Dr. Leander A. Riely; vice-president, Dr. Lewis J. Moorman; secretary-treasurer, Dr. William R. Bevin, and delegates to the state medical association, Drs. Arthur W. White, William T. Salmon, Ross D. Long and Wirt A. Fullington, all of Oklahoma City.——The Atoka-Coal Counties Medical Association, at its annual meeting in Lehigh, elected Dr. Walter B. Wallace, Lehigh, president, and Dr. John B. Clark, Colgate, secretary.——At the second annual meeting of Hughes County Medical Society, held in Holdenville, Dr. Ira W. Robertson, Dustin, was elected president; Dr. James D. Scott, Holdenvile, vice-president; and Dr. Alexander M. Butts, Holdenville, secretary.——Grady County Medical Society met in Chickasha December 7, and elected Dr. Walter Penquite, president; Dr. Paul Vann, vice-president; Dr. Martha J. Bledsoe, secretary, and Dr. James E. Stinson, treasurer, all of Chickasha.

OREGON

Personal.—Dr. Andrew C. Panton, Portland, has resigned as president of the Board of Medical Examiners.——Dr. Albert G. Prill has been re-elected mayor of Scio.

Follows Indiana's Example.—The senate passed February 1, by a two-to-one vote, a bill providing for the sterilization of criminal insane and confirmed criminals. The confirmed criminal is one who has served three or more terms in the penitentiary.

Sentenced for Maintaining Nuisance.—Dr. C. H. and Charles H. T. Atwood, Portland, are said to have been sentenced in the Circuit Court January 21 to five months' imprisonment in the county jail, for maintaining a nuisance in conducting the so-called Atwood Maternity Home. An arrest of judgment was asked but denied.

State Board Election.—At the annual meeting of the State Board of Health the following officers were elected: President, Dr. Edward A. Pierce, Portland; vice-president, Dr. Willis B. Morse, Salem; secretary, Dr. Robert C. Yenney, Portland. A committee was appointed to confer with a committee from the National Association for the Prevention of Tuberculosis in an effort to secure state aid for tubercular poor. The secretary was instructed to enforce the regulations recommended at the recent conference of health officers of the Pacific Coast.

PENNSYLVANIA

Bill to Bar Marriage of Consumptives.—A bill was introduced in the legislature February 3 to stop the marriage of consumptives. The bill is intended to regulate the issuance of marriage licenses and provides the conditions under which such licenses shall be issued. The important feature of the bill is contained in the section which provides that the clerk of the Orphans' Court "shall not issue any marriage license until each of the parties applying therefor shall severally present to the clerk a certificate under oath or affirmation from a medical doctor, duly authorized to practice medicine under the laws of this commonwealth, setting forth that he, the said medical doctor, does declare to the best of his konwledge and belief the applicants for the license are not afflicted with pulmonary tuberculosis, epilepsy, insanity, imbecility, idiocy or hereditary diseases, as such would affect the contracting party to such a marriage or any offspring therefrom."

Philadelphia

Fined for Using Bad Eggs.—Charged at the instance of the State Dairy and Food Commission with using bad eggs, known as "rots and spots," in their products, two large baking firms were arrested and fined $62 50 in the magistrate's court.

Personal.—Dr. Alfred Heineberg has been elected gynecologist to the new Lebanon Hospital.——Dr. F. Hirst Maier is confined to his home with a severe pneumococcic infection of the eyes.——Dr. P. Brooke Bland has been seriously ill with septicemia, but is improving.

New Medical Bill Endorsed.—Concerted action by physicians throughout the state supporting the Herbst medical bill, just introduced in the legislature, was planned by the committee on publicity and legislation of the Philadelphia County Medical Society at a meeting February 3. The bill has been endorsed by the county society, the West Philadelphia Physicians' Association, the Northwest Medical Society, the Medico-legal Society, the Medical Examiners' Association, and the South Branch of the County Medical Society. Resolutions were adopted asking the legislative committee of city councils to use its influence to further the passage of the new measure.

FOREIGN

Cholera in St. Petersburg.—The following facts in regard to cholera in St. Petersburg are culled from the reports now appearing in European journals: Of all the capitals of Europe, St. Petersburg has been invaded most often by cholera; it did not escape a single one of the earlier pandemics. The present epidemic in Russia began in 1902, coming up through Persia to Southern Russia. In 1904 it extended along the Volga to Seratov. Since then it has persisted in Astrakan and was expected to reach St. Petersburg at any time. Last year it was thought that the danger for St. Petersburg was passing, but this proved to be a mistake. The first cases were recognized in the early part of September. In the last half of August a

number of cases of so-called summer diarrhea occurred, but the first bacteriologic diagnosis of cholera was made on September 7, when the first death occurred. From September 9 to 19 the number of cases increased rapidly, and on September 19 419 new cases were reported. Since then the number of new cases has steadily diminished. On account of lack of suitable means of transportation and of special hospitals, cholera patients were admitted to the general hospitals; nevertheless there are no reports of cases of hospital infection and no physician has been attacked, but on the other hand several nurses contracted the disease. It appears to be a typical water-borne epidemic. St. Petersburg gets all its drinking water from the Neva; the water reaches the outer borders of the city unfiltered, the inner parts after having been filtered, but only imperfectly so because the filters are overgrown with cholera germs. The Neva is also the principal sewer of the city, receiving all the sewage without previous disinfection. Cholera vibrios have been demonstrated in the water in the center of the river, where there is a considerable current, also closer to the shore, and in numerous canals as well as in the tap water in the bacteriologic laboratories. It seems that the streets were sprinkled with infected water so that ready opportunity was given for contamination of the foodstuffs exposed for sale in the streets. Hence it is quite likely that the larger part of the population has been exposed to infection. The lower classes, however, have been most severely affected; at the same time the better classes have suffered more than usual in cholera epidemics. Numerous healthy persons carrying cholera germs have been encountered, but in all the vibrios are said to have disappeared almost always inside of fourteen days.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 30, 1909.

The Royal British Radium Institute

Attention has lately been directed to the great possibilities offered by radium for the treatment of disease. A great obstacle to its more extensive use is its costliness. A number of leading authorities in science and in medicine, with the help of some wealthy philanthropists, have started an institution for the purpose of furthering the use of radium. The movement has enlisted the sympathy of the king, whose keen interest in medical science is so well known. He has shown his approval by granting a royal charter, establishing a Royal British Radium Institute. This institution will not only carry on research work, but will also have a medical department for the eventual treatment of cases in which experimental work has shown the possibilities of radium therapy. Premises have been acquired in the west of London, and the institute will be for the benefit of the rich and poor alike. No similar institute of the kind exists except in Paris. The council includes Sir Frederick Treves, Sir William Ramsay (the scientist), Sir J. J. Thomson of Cambridge University, the Hon. R. J. Strutt and Mr. Henry Morris (president of the Royal College of Surgeons). The work will probably be carried on with the help of the Imperial Cancer Research Fund.

Death Under Stovain

Spinal anesthesia has not yet found much favor in this country, but its use is increasing. Mr. A. J. Barker of University College Hospital has been its foremost exponent, and he has recently reported 100 cases of spinal anesthesia produced by stovain with success. As yet little has been heard of untoward consequences, such as have been reported from time to time in continental journals. Coroner Troutbeck has just held an inquest at Battersea on a house-painter, aged 73, who died while under the influence of stovain. An operation for enlarged prostate was judged necessary, and stovain was injected into the spinal canal between the third and fourth lumbar vertebræ. This anesthetic was selected as the patient had a senile heart and lung trouble, and the drug is supposed not to affect either the heart or lungs. The bladder was then washed out. When the operation was about to begin, the surgeon noticed that the patient's face was very pallid and that he yawned immoderately. The heart and respiration failed and the patient did not respond to stimulation, but died half an hour later. Dr. Freyberger (the pathologist appointed by the coroner to make necropsies for this coroner's inquests) gave as the cause of death anemia of the brain in consequence of failure of the heart under the influence of stovain. He said that he had had two similar cases. The effect of stovain on the heart, he said, was much like cocain.

Death from the Fumes of a Decomposing Cargo

Eleven men employed in removing a cargo of rice and maize out of the holds of the London steamer *Sir John Jackson*, which went ashore on a coral reef near Batticalva on the coast of Ceylon, lost their lives under extraordinary circumstances. They were suffocated by poisonous gases arising from the decomposing cargo. They were suddenly overpowered and fell as if shot. A man employed on deck, who had three brothers at work in the hold, descended to their rescue and lost his life.

Purer Milk for Liverpool Hospitals

In Liverpool an active movement is in progress for securing a purer milk supply for the hospitals. The Liverpool Medical Institution has appointed an influential committee to consider the question. The committee finds that 5 per cent. of the railway-borne milk of Liverpool is so defective on chemical analysis that legal proceedings are taken. On bacteriologic examination 5.4 per cent. of the samples contained tubercle bacilli and 72 per cent. contained organisms commonly present in the excreta of cattle. It was therefore evident that the milk supplied to the Liverpool hospitals was not of the standard desirable for invalids. To remedy this the following suggestions have been made by the committee: 1. Systematic inspection of the farm supplying the milk. 2. Periodical analysis of the milk, both chemical and bacteriologic. 3. The tuberculin test to be applied periodically to the cows. 4. The farm and accessories to be properly equipped. 5. Special milk cans, rain and dust-proof, and capable of being readily sealed to be used. In order to give effect to these suggestions, the committee has recommended that a conference of representatives of the governors and medical boards of the hospitals be invited to meet them. They suggest for the consideration of the conference the desirability of combined action of the hospitals with view of appointing a permanent staff, consisting of chemical and bacteriologic analysts and a veterinary surgeon.

Legislation Regarding the Administration of Anesthetics

The General Medical Council has submitted to the Privy Council a bill making it a penal offense (except under certain specified circumstances) for any person other than a qualified medical practitioner to administer a general anesthetic for any operation or during childbirth. The bill also makes it obligatory on all examining bodies to require that candidates presenting themselves for their final examination shall have received thorough instruction in anesthetics and shall have administered anesthetics under the supervision and to the satisfaction of their teachers.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 26, 1909.

The Faculty of Medicine and Needed Reforms

The council of the faculty of medicine of Paris commissioned recently a delegation of its members to wait on the minister of public instruction and inform him in detail in regard to the present unbearable situation of the medical departments of the universities and the modifications that this situation demands. In our university organization the council of the faculties of medicine plays a nugatory part; it can pass resolutions but has no power to enforce them. These resolutions are transmitted by the dean to the rector of the university who submits them to the university council or to the superior council of public instruction. But these bodies contain only an infinitesimal proportion of members competent, from a medical standpoint, to pass judgment in the matter. For instance the council of the University of Paris numbers 18 members, of whom only 3 are physicians, while the superior council of public instruction comprises 53 members, of whom 50 are non-medical and 3 are physicians, and of these 3 physicians, 2 are elected by the faculties and the third is appointed by the minister. The faculties are consequently deprived of all initiative. The mistake was made of placing the medical schools on the same basis as the other faculties, forgetting that the former are called on to give at the same time both higher and a technical and professional education.

To remedy the present state of affairs, the council of the faculty of medicine of Paris asks for the creation of a "permanent committee," essentially medical, composed of equal numbers of members respectively nominated by the minister and elected by all the faculties and schools of medicine. This committee is to transmit to the minister directly, after study of the subject, all the resolutions adopted in regard to medical instruction, and to keep him informed of the needs and aspirations of the faculties and schools of medicine. The minister has promised to investigate this matter in a sympathetic spirit.

The Fluctuations of the Population in France

By an interesting innovation the bureau of statistics will henceforth publish the vital statistics in France every six months, instead of yearly. The statistics relating to the first half year of 1908, in comparison with those of the first six months of 1907, have just been published. While the later years have been marked by a constant diminution in the birth rate (see THE JOURNAL, Oct. 17, 1908, p. 1346), a notable improvement is seen for the first six months of 1908 in comparison with the same period of 1907. In 1907 the deaths exceeded the births by 55,000 for the first half year; in 1908, on the other hand, the births exceeded the deaths by about 11,000; but it must be noted that the improvement is due especially to the diminution in the number of deaths. There were 457,752 deaths in 1907 to 399,336 in 1908, representing a diminution of about 58,000. The laws of hygiene and of social assistance, which are constantly developing more and more, certainly count for much in this reduction of the death rate. As to the increase of the birth rate proper, it is not very considerable; the number of births of living infants, which for the first half year of 1907 was 402,745, rose during the first half year of 1908 to 411,402, representing an increase of about 9,000. But since these statistics cover only a short period, it is difficult to know whether they represent really an improvement of a durable character or merely a simple and transient fluctuation.

A Decision of the Faculty of Medicine Annulled by the Council of State

The higher authorities have just annulled, on the ground that it was rendered in contravention of the regulations, the decision by which the Paris faculty of medicine in 1906 awarded the Lacaze prize of 10,000 francs ($2,000) to Dr. Achard. This prize is awarded every two years to the author of the best work presented, on the subjects alternately of phthisis and typhoid fever. The stipulations require that the competing works must be in the hands of the secretary before the fifteenth of October. By Oct. 15, 1905, two essays alone had been presented, one by Drs. Lesage and Abrami, the other by Dr. C. Martin. The prize, however, was awarded to neither of these, but to Dr. Achard, who had not formally entered the competition and had not sent in any work to the secretary. The report of the prize committee stated that Achard's candidacy rested on a great number of works, of which many were in collaboration with well-known scientists, the series extending over a period of ten years. Protest against the award of the prize under these conditions was made by Drs. Lesage and Martin, who appealed to the higher authorities. The decree rendered states that the faculty of medicine, through a notice published by its orders and sanctioned by the signature of its dean, made known to the public the conditions under which it would award in 1906 the prize at its disposal. If it was the prerogative of the council of the faculty not to award the prize in case it should consider the merits of the works presented insufficient to justify the award of the prize to their authors, it could not, in defiance of regulations the observation of which was as incumbent on the faculty as on the competitors, bestow the Lacaze prize on Dr. Achard, who had presented no competing work.

Yellow Fever at Martinique

The governor of Martinique has recently cabled the minister for the colonies that a case of yellow fever has developed at Fort-de-France. The chief of the local health service and Dr. Simond, in charge of the commission for study and prophylaxis whose departure from Martinique I recorded in THE JOURNAL (Nov. 28, 1908, p. 1879), consider it necessary to postpone the departure of officials and soldiers for Martinique. The governor consequently begs the minister not to embark any one until further orders. Cases of yellow fever have been declared in neighboring foreign colonies, notably at Surinam, where 25 cases, of which 6 proved fatal, have been registered; at Barbados, which has 10 cases with 8 deaths, and at Curacao, where one isolated case has occurred.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 11, 1909.

"The Kultusminister"

For some months Holle, the minister of education, has been in Meran on account of an illness attributed by the official reports to nervous breakdown from overwork in familiarizing himself with the work of his new office. He assumed the office about a year and a half ago, having been formerly for many years undersecretary of state in the department of public works. It is indeed a severe task for one unacquainted with its scope to supervise the "Kultus" department, which includes three distinct sections of theology, the entire public school and university system and medical affairs. For many years it has been acknowledged that the scope of this department was too large for a single head, and a movement has been started to effect a subdivision. The chiefs of the department themselves have repeatedly expressed their assent to this suggestion, but the matter has so far always rested there. Physicians have several times expressed a wish that a special state department be created for medical affairs in the same way as is already the case in many civilized countries. There is no question that such a minister would have enough to do in his office, for the extent of affairs pertaining to medicine and the public health is surely very great. But it is with the creation of a new cabinet department as it is with the establishment of a new professorship. In the universities the faculties have every time opposed the establishment of a new regular professorship on the ground that it was not needed, and as a rule every new professorship has been established by the government in opposition to the will of the faculty. In regard to the state departments, there is no superior power to object, but establishment of a new department would entail expense, and for this reason probably the minister of finance, whose vote, it is easy to understand, carries a predominating influence in all affairs involving money, will oppose the innovation. Whether the minister who is ill will return to his duties, is indeed a question, but meanwhile his furlough has been extended. Originally it was assumed that his sickness was the usual "ministerial disease"; that is, it was only to cover up approaching dismissal. This suspicion was increased by the news of a little episode that happened shortly before the beginning of the official's sickness. On the occasion of a meeting with the minister, it is said that the emperor, who was accompanied by the king of Greece, introduced Dr. Holle to his guest with the words, "Herr Holle is now studying to be Kultusminister." In consequence of this unceremonious and somewhat depreciatory personal remark, the minister of education obtained his leave of absence which may terminate with dismissal. Whether this remark was really made is uncertain; the newspapers often spread rumors of such kinds without any foundation. At any rate, it is a fact that the minister is undeniably ill.

Removal of Professor Strümpel to Vienna

Professor Strümpel has received and accepted a call as the successor to Prof. von Schrötter, director of the third medical clinic in Vienna, who died last April. There was some opposition to his selection among the professors of the Vienna medical faculty on the ground that there was enough home talent to fill the vacant position. Protests of this sort are regularly repeated whenever an Austrian professor is called to Germany, or *vice versa*. In general, it is true that each country has sufficient material at its disposal to replace its losses; but quite independently of the facts that each faculty is anxious to improve itself by the selection of the most distinguished professors, and that in carrying out this aim it does not stop at the borders of the neighboring kingdom, the governments of the two countries also desire to introduce "fresh blood" into their faculties by such an exchange. That this view is the right one admits no doubt, for there is a danger for faculties in growing by inbreeding. Hence it is quite desirable that once in a while ability should be introduced that has developed outside of the immediate circle. We have in Germany, especially in Prussia, a number of Austrian professors, such as Kraus in Berlin and the surgeon Payr in Greifswald; on the other hand, Prof. von Noorden went from Prussia to Vienna as the successor of Nothnagel, who was also a German. We have received from Switzerland von Müller in Münich, His in Berlin and Garré in Bonn, while Gerhardt, the son of the renowned internist, has gone from Germany to Basel.

The Feeding of Public School Pupils

The feeding of poor school children is a form of the social helpfulness that is exercised at the present day in most civilized countries, but especially in Germany. In Dresden as early as 1884 a charitable association (*Verein gegen Armennot*) started a "soup kitchen" for poor school children. There has also been in Dresden since 1896 a special association for feeding poor school children with substantial meals. At the present time the public school children are cared for in this way in many German cities, partly by private associations and partly by the city authorities. In Berlin, as I have already told you, 70,000 marks were lately appropriated for this purpose; in Münich there is a municipal soup kitchen which sup-

plies annually 470,000 meals, with a total outlay of 64,000 marks ($15,360); one in Strassburg supplies 108,000 meals at an expense of 13,000 marks ($3,120). In Strassburg the poor authorities have themselves undertaken the entire business of furnishing food to the poor. There is a central kitchen, with kettles holding each 350 liters, which can prepare 2,800 pint bowls of soup. For the distribution of the soup to the local schools, the city and suburbs are divided into districts, and the soup is sent in portable kettles in so-called cooking boxes. The distribution is made partly by volunteer waiters. Augsburg, Charlottenburg, Nuremberg, etc., furnish free milk breakfasts. The selection of the children to be fed is made in most cities by the poor office on the recommendation of the teacher, while in some cities, for instance, in Mannheim, a limit of wages of the head of the family is established. Supplying free meals to the children is not regarded as coming under the head of public charity (*Armenunterstützung*).

Laboratories for Bacteriologic Examinations

At the beginning of this year three official institutions for free bacteriologic examinations were opened in Berlin in the municipal laboratory, in the institute for infectious diseases, and in the hygienic institute of the university. The city is divided into three sections, each of which is connected with one of these laboratories. Examinations are made for diphtheria, meningitis, typhoid, dysentery, anthrax, glanders, trichinosis, and for meat, fish and sausage poisoning. In both of the state institutes examinations are made for tuberculosis. Convenient packages for sending the material can be obtained in the pharmacies, which are marked with the address of the laboratory with which the pharmacy is connected. The charges for sending these packages through the mail must be borne by the sender, and physicians want to have these packages forwarded post free. There is no doubt that this arrangement affords a valuable means for the early recognition and of infectious diseases and for timely prevention of their spread.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Jan. 29, 1909.

The Work of the Vienna Street Ambulance Corps in Messina

The Vienna Street Ambulance Corps (*Rettungsgesellschaft*) possesses three kitchen-cars or movable kitchens for supplying large quantities of cooked food in special emergencies. These cars are lighted with electricity and fitted with three kettles each, with necessary apparatus for boiling and baking while on the way to the place of need. A storeroom and a pantry are fitted into each car; the three cars can distribute 25,000 rations within eight hours, and no more than three cooks and six assistants are required. When the news of the Messina disaster and the lack of food there became known, the services of the corps and the three portable kitchens were offered to and accepted by the Italian embassy in Vienna. The cars arrived in Messina, Catania and Reggio di Calabria in time to do an enormous amount of good work among the starving population. The only difficulties were, at first, to obtain sufficient food in the ruined towns, and later, to cook it according to Italian taste; but the latter difficulty was soon overcome. In a few days the kitchen-cars were in such working trim that 10,000 or 12,000 people, including the army detachment corps working at the débris, were fed daily, free of charge. The cars are still there; and it is the unanimous opinion that their aid was the succor most gratefully appreciated by the unhappy population. These kitchen-cars have been previously put in service several times after extensive floods and fires, and once during a military maneuver in this country.

New Professors of Dermatology

The death of Professor Mracek and the resignation of Professor Lang have created two vacancies in the faculty of the University of Vienna, which have just been filled by the appointment of Professor Ehrmann to succeed Lang and of Professor Rusch to follow Mracek. Both these men have well-established reputations as diagnosticians and therapeutists; Professor Ehrmann especially is regarded as a very prominent man, full of keen observation, coupled with an intuitive gift for discerning the healing qualities of various substances.

Physical Exercise for School Children

The new regulations for elementary schools give special attention to physical exercise for the children under the supervision of the teachers. Thus on at least three days of each week one hour a day must be devoted to gymnastic exercises, in the open air, if possible, not in the *Turnhalle* or gymnasium. The English system of outdoor games and sports is preferred to the German system of gymnastics. In suitable weather the children are to take short or long walks; on certain days when school is not in session the class is to make excursions to the beautiful places in the environs of the city. Walking is greatly encouraged, and the older pupils are advised to take walking tours during the summer and Christmas vacations, going ten to fifteen miles a day, and doing a moderate amount of mountain climbing. The expenses of the needy pupils are to be defrayed by the schools. Of the gymnastic exercises, especially for the younger children, such as tend to strengthen the lungs are chiefly favored. To be excused from these exercises, a child must produce a medical certificate stating what injury might result to him from taking them. These recommendations are the result of a series of investigations into the physical condition of the school children, instituted by the board of health, and conducted during the last year by a committee of medical men and teachers.

Government Expenditures for Medical Purposes

In the budget for 1909, the government has proposed the expenditure of about $1,100,000 (5,500,000 crowns) for new buildings for the medical faculties in the university cities of Austria, and for the professors' salaries. Vienna is allotted $360,000, Prague $260,000 (there are two universities in Prague), Graz, Lemberg and Innsbruck, each $90,000, and Cracow $120,000. There are to be paid by the state 112 ordinary professors, 57 extraordinary professors, 293 assistants and 76 technical officers; privat docents receive no salary. Buildings are in process of completion for the chemical and physical institute in Vienna, the pharmacologic institute in Prague, the pathologic-anatomic institute in Cracow, as well as a building for forensic medicine; $360,000 were appropriated for these buildings.

Pharmacology

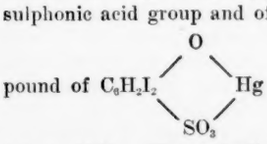
[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

THE USE OF MERCURIC IODID SOLUTIONS FOR INTRAMUSCULAR INJECTIONS

W. A. Puckner

In view of the interest in the intramuscular injection of mercury compounds in general, and of mercury sozoiodolate in particular,[1] the result of an examination of a sample of this drug is worthy of comment. Dr. Archibald Church, professor of nervous diseases in Northwestern University Medical School, submitted this sample, stating that it was said to be a solution of mercury sozoiodolate, and that he had had eminently satisfactory results in using it by intramuscular injection.

MERCURY SOZOIODOLATE

The substance sold under this name is said to be the mercury salt of di-iodo-phenol-sulphonic acid, $C_6H_2.OH.I_2.HSO_3$, in which one atom of mercury has replaced the hydrogen of the sulphonic acid group and of the phenol group, yielding the compound of $C_6H_2I_2$  Hg (L. Rosenthaler, Neue Arzneimittel, p. 110). Theoretically, it should contain 40.67 per cent. iodin and 32.06 per cent. mercury. This mercury compound is said to be insoluble in water, but soluble in solutions of chlorids, bromids or iodids. Examination of a specimen obtained from Merck & Co., indicated that the mercury and iodin content agreed essentially with the theory and its insolubility in water and solubility in a solution of iodids was also confirmed.

SOLUTION MERCURY SOZOIODOLATE

In the solution which was submitted for examination, sodium and mercury were the only metallic elements found. From an estimation of the mercury, the sodium and the iodin contents, it was concluded that 100 c.c. of the solutions con-

1. THE JOURNAL A. M. A., Sept. 15, 1906, p. 881; Sept. 5, 1908, p. 859; Dec. 5, 1908, p. 1990.

tained approximately one gram of mercury sozoiodolate and somewhat less than three grams of sodium iodid. A solution obtained by dissolving one gram of mercury compound in three grams sodium iodid and sufficient water to make 100 c.c. corresponded closely in its chemical behavior and composition to the solution submitted for examination.

SOLUTION SODIUM MERCURIC IODID

When a mercuric compound is treated with alkali iodids, a complex salt, an alkali mercuric-iodid results (see New and Nonoffiial Remedies, 1909, page 94). If a mercurous compound is treated with iodid, some of the mercury is changed to alkali-mercuric iodid, and part is reduced to the metallic state. From this it would seem that when mercury sozoiodolate is dissolved in sodium iodid, the compound is decomposed and the solution contains sodium mercuric iodid. The behavior of the mercury sozoiodolate when in the process of solution appears in every way to confirm this. If this is the case, the question at once arises, why should not mercuric iodid be used in the place of the organic mercury compound, since the efficacy of mercuric iodid has been firmly established? With this in mind, a solution was prepared containing an amount of mercuric iodid approximately equivalent in mercury content to the 1 per cent. mercury sozoiodolate solution, viz.: mercuric iodid 0.8 gm., sodium iodid 3 gm., water sufficient to make 100 c.c. This solution was submitted to Dr. Church, who reports that preliminary trials indicate that the solution possesses all the advantages of the solution of mercury sozoiodolate.

This matter is published in the hope that others who are interested in the subject and who have had unsatisfactory results with other mercury solutions may give this formula a trial:

R.	gm.	or	c.c.
Hydrargyri Iodidi Rubri	.8		gr. xii
Sodii Iodidi	3	or	gr. xlv
Aquæ	100		f℥ iiiss

The solution may be prepared by any competent pharmacist and the physician will be certain of its mercury content. If this solution is well borne and is therapeutically equal to the solution of mercury sozoiodolate, it again illustrates the frequently demonstrated fact that a complex organic compound is not necessarily superior to a well-known drug of firmly established value. In the case under discussion, physicians have presumed that they were using a new and wonderful mercury compound, when in reality the process of dissolving the drug had decomposed it into the well-known mercuric iodid.

COUGH MEDICINES

The Composition of Some Much Advertised Secret Cough Remedies

In another of its series of articles on "Secret Remedies," the *British Medical Journal*, Dec. 5, 1908, p. 1697, deals with the composition of a few of the most widely advertised cough medicines. The analysis of cough mixtures is not easy, as many of the ingredients used are devoid of definite active principles that can be identified. The formulas, even if they are given, do not necessarily represent the actual ingredients. The discovery of potent remedies, such as preparations of opium, ipecacuanha, etc., is more important and more likely to be successful.

KAY'S LINSEED COMPOUND

According to the analyses, this preparation is fairly represented by ipecacuanha wine, 42 minims; morphin 1/7 grain; chloroform 5 minims in each fluid ounce.

OWBRIDGE'S LUNG TONIC

This much-advertised "patent medicine" is a similar preparation to Kay's Linseed Compound.

POWELL'S BALSAM OF ANISEED

This has been reputed to contain morphin and evidence has been brought to that effect in legal proceedings, but the analyses showed 0.012 per cent. of an alkaloid which was not morphin, although it may have been one of the derivatives of that alkaloid. It is evident that the composition of the remedy has been changed.

DR. KILMER'S INDIAN COUGH CURE

Analysis of this nostrum, which is manufactured in the United States, showed that 100 parts contained 63 parts of solids, of which practically the whole was sugar; there was also present about 2 per cent. of alcohol and about 0.5 per cent, of oil of pine, with rather less than 0.1 per cent. of a resinous substance agreeing well with the resins from compound tincture of benzoin; a small resinous deposit also remained adhering to the inside of the bottle. A trace of a bitter yellowish substance was present, which may have been the aloes contained in the compound tincture, but did not agree perfectly with it in character; the quantity was too minute for exact identification. No alkaloid was present.

CROSBY'S BALSAMIC COUGH ELIXIR

Analysis showed the presence of sugar, a trace of chloroform, sulphuric acid, acetic acid; a trace of an aromatic substance probably derived from tolu, and a minute trace of alkaloid. The sulphuric acid corresponded to 40 minims of the official dilute sulphuric acid in one fluidounce.

VENO'S LIGHTNING COUGH CURE

This "patent medicine" contained glycerin, alcohol and a small amount of resin and no alkaloid was present. There is some reason to believe that the resin is derived from "Grindelia robusta"; but positive proof of the presence of this drug could not be obtained.

KEATING'S COUGH LOZENGES

These were found to correspond approximately to the following formula: Morphin, 0.007 grain; ipecacuanha, 0.07 grain; extract of licorice, 2.1 grains; sugar, 13 grains in one lozenge.

BEECHAM'S COUGH PILLS

The composition of these pills is expressed as follows: Morphin, 0.0035 grain; powdered squill, 0.1 grain; powdered aniseed, 0.3 grain; ammoniacum, 0.3 grain; extract of licorice, 0.4 grain in one pill.

MEDICINE VS. PHARMACY

The Relations Existing Between the Professions

Under the above caption Dr. M. Clayton Thrush, in the *Pharmaceutical Era* (Dec. 24, 1908), details the relations that he believes should exist between the professions of medicine and pharmacy, and he makes suggestions for the removal of differences that have arisen. In discussing the origin of both medicine and pharmacy, Dr. Thrush reminds us that disease used to be looked on as a malign entity, to be driven out of the body by means of noises, odors and contortions. As relics of these primeval beliefs, we still in nervous diseases employ foul-smelling drugs (valerian, asafetida, etc.) and the modern "osteopath" supplies the contortions. After discussing pharmacy from the business side, the problem of popularizing official preparations is dealt with.

POPULARIZING OFFICIAL PREPARATIONS

"The pharmacists of this country are largely to blame for the enormous use of proprietaries instead of official preparations, for if every pharmacist would make up a line of the official drugs, especially the newer preparations of the U. S. Pharmacopeia and National Formulary, and would call on the physicians in the neighborhood and show them these preparations, leaving a sample of each, he would be surprised with the result that would be produced. After all, this is nothing more than his duty as a pharmacist, and he would be doubly rewarded: First, in showing his ability as a pharmacist; second, in encouraging the physician to prescribe official preparations instead of proprietaries; third, in increasing the ties of friendship that should exist between physician and pharmacist."

The question of pharmaceutical legislation is then dealt with, and the pharmacist is urged to belong to his state and

national organizations. As for the relation of the physician to the pharmacist and *vice versa*, Dr. Thrush says:

RELATIONS OF PHYSICIAN AND PHARMACIST

"Two things have contributed largely towards harmonizing the two professions, viz.: the work of the Council on Pharmacy of the American Medical Association which is composed of physicians and pharmacists, and the branch meetings in the larger cities of the American Pharmaceutical Association where physicians and pharmacists meet and discuss matters on a common basis. They have done considerable good and their results are being realized throughout the United States."

From the physician's standpoint, the most important causes of lack of harmony between the two professions are: 1. Counter prescribing; 2, incompetency; 3, the indiscriminate renewal of prescriptions against the physician's orders; and, 4, the "pushing" of nostrums. On the other hand:

THE PHARMACIST'S VIEW

"The most important accusation that the pharmacists advance against the physician is the dispensing of his own medicine, and this applies chiefly to the compressed tablet and tablet triturate business. Except in the country districts where the physician is compelled by necessity to dispense his own medicines, the physician, according to the pharmacist's ideas, should not dispense, as every time he dispenses means, of course, that much less prescription work for the pharmacist. . . . There are several factors that cause him to commence dispensing. These are important ones that are usually advanced:

"*Competition.*—A young practitioner settles in a certain locality and attempts to write prescriptions for his practice; he soon learns that the other doctors in the vicinity give their medicines with each visit, and in order to compete on the same footing, he is compelled to do as they do. The homeopaths have always furnished their own medicines.

"*Exorbitant prices charged by some druggists.*—Many druggists in attempting to grow rich quickly, charge exorbitant prices for their prescription work and the physician who has prescribed the medicine often suffers as a result.

"*Emergency work, especially at night.*—For emergency work every physician should carry at least a few remedies in a small pocket case or hypodermic outfit.

"*The physician has better control of the patient.*—If he furnishes his own medicine he gives enough to last a certain number of days when the patient returns to him, while, on the other hand, if he writes a prescription the patient can renew it indefinitely and even give it to his neighbors, unless the physician specifies 'not to renew without a written order.'"

VASOGEN AND IODOVASOGEN

Another Case in Which Independent Analyses and Manufacturers' Labels Disagree

Vasogen, a product of Pearson & Company, Hamburg, Germany, has been put on the market under the various designations, "oxygenated vaseline," "water-soluble hydrocarbon" and "oxygenated hydrocarbon." The manufacturers, and also their American agents, Lehn & Fink, claim that by a special process the apparent impossibility of saponifying petrolatum has been overcome with vasogen as the result. Disinterested chemists who have analyzed vasogen find that the product consists essentially of an ammonium soap and petrolatum—practically an ammonia liniment mixed with petrolatum.

Just as petrolatum under its various trade names was at one time recommended as a universal ointment base, so vasogen is recommended promiscuously as a vehicle for remedies applied externally and even for internal medication—needless to say in many cases in which it is directly contraindicated.

Iodovasogen, recommended for external application as a substitute for tincture of iodin, was examined by Zernik in 1905, who found that the iodin existed not as a free iodin, but chiefly as ammonium iodid. The therapeutic character of the preparation is thus entirely different from that to be inferred from the labels and elsewhere, since the counter-irritant effects of free iodin are of course absent in ammonium iodid. Pearson & Co. now claim that when Zernik's findings were published they immediately modified their statements on the label in accordance with the truth. This is denied by Dr. Lungwitz, the editor of the *Therapeutische Rundschau* (*Apotheker Zeitung*, 1908, p. 900), who vigorously criticizes the misrepresentation made by Pearson & Co. in regard to iodovasogen. He calls attention to the fact that, while Zernik's results were published over three years ago, the labels which are in use to-day still bear the statement that iodovasogen consists of vasogen 90 parts and resublimed iodin 10 parts, and vasogen 94 parts and resublimed iodin 6 parts, respectively.

As iodovasogen and vasogen in various combinations, are being advertised to the physicians in the United States, the above information from our German exchanges is worthy of consideration.

Nostrums for Diabetes

According to the *British Medical Journal*, Dec. 26, 1908, not many preparations are advertised for the cure of diabetes. Two nostrums of this type were analyzed and, as is usual in such cases, were found to be mixtures of well-known ingredients, none of which can be supposed to produce the wonderful results claimed in the advertisements.

VIN URANÉ PESQUI'S (PESQUI'S URANIUM WINE)

This nostrum proved to be a very ordinary Bordeaux wine each 30 c.c. (1 fluidounce) of which contained uranium equivalent to 0.0055 gm. (1/12 grain) of the nitrate. Although the manufacturers claim that pepsin is added to the wine, no digestive power whatever on egg albumin could be detected.

DILL'S DIABETIC MIXTURE

Analysis of this preparation yielded results indicating the following formula: sodium bicarbonate, 7.4; extract of hydrastis, 1.5; resin, resinoid and other extractives, 2.2; alcohol, 35; water to 100. According to the advertisements this mixture is "the only known remedy for this deadly disease." "The remedy, it is needless to say, will have to be persevered with. These are deadly diseases and must have time." The price is $2 and the estimated cost, 22 cents.

Toxicity of Lysol

To the Editor:—In a pamphlet sent out by Lehn & Fink on lysol, the following statement appears: "Applied to the surface in full strength, no injury results." This statement I believe to be incorrect. Early this year, having a patient with an infected finger, I gave directions for a moist dressing of a solution of lysol. The patient applied the lysol full strength on a gauze compress. The result was severe burning pain, and although the press was removed within an hour, sloughing of the skin followed over the entire surface of the finger covered by the compress. I called the attention of a representative of the company to the inaccuracy of the firm's statement, but no change has been made. I wish the readers of THE JOURNAL to profit by my experience.

C. D. HARRINGTON, Minneapolis.

COMMENT.—Extravagance and exaggeration of statement are characteristic of most proprietary promoters, and constitute one of the worst evils of the proprietary medicine business, for physicians no less than laymen are misled thereby. The power of phenol (carbolic acid) to cause gangrene is well known and the cresols—of which lysol contains 50 per cent.—have in general the properties of the phenols. Lysol has taken the place of phenol (carbolic acid) as a means of suicide in Germany, where until lately it has been more easily procured than carbolic acid. The effects of undiluted lysol on the stomach are those of a corrosive poison and similar effects may be expected on the external surface of the body in cases in which the skin does not form an efficient protection. The statement of the circular is unwarranted and the moral, if not the legal, responsibility for the untoward consequences resulting therefrom lies at the door of those making it If, instead of the patient, our correspondent had ventured on the strength of the advertisement to recommend the application of the preparation undiluted, he might perhaps have been made a party to a malpractice suit, and he would not be able to throw the responsibility on the manufacturer who made the statement.

Correspondence

Bill Affecting Expert Testimony in New York State

To the Editor:—I enclose herewith a true copy of the proposed bill affecting expert testimony, which was recently adopted by the Medical Society of the State of New York on the report of the committee appointed one year ago to act with a similar committee appointed by the New York State Bar Association. The committee of the bar association after joint session with our committee recommended to the state bar association its adoption. It was adopted unanimously after free discussion and it is now ready to be introduced into the legislature of this state.

The committee of the Medical Society of the State of New York desires the cooperation of the medical profession and the journals representing the medical thought of this country. The committee believes that the time is ripe for a determined effort to be made, having for its object the stamping out of the almost intolerable conditions surrounding expert evidence today. The active cooperation of the bar of this state is now assured.

There is no doubt but that some members of the bar, and possibly some members of the medical fraternity, will be opposed to the adoption by the legislature of this method or any other looking toward improvement in the present conditions surrounding medical expert testimony.

It is possible that this bill is not perfect. We know that there are several things that could be added to it in order to make it a perfect bill, but we do not believe that a complicated measure can be made a law.

The enclosed bill is simple and concise and there is no opportunity of mistaking its provisions.

Owing to a mistake of the associated press representative the wrong bill was published in the daily papers as being the one adopted by the Medical Society of the State of New York and the New York State Bar Association.

We ask that the matter be taken up in THE JOURNAL and given the benefit of editorial cooperation on this subject.

DWIGHT H. MUNCY.
Chairman Committee on Expert Testimony of the Medical Society of the State of New York.

AN ACT TO REGULATE THE INTRODUCTION OF MEDICAL EXPERT TESTIMONY

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Section I. Within ninety days after this act shall take effect the justices of the supreme court assigned to the appellate division thereof in the several departments, shall designate at least ten and not more than sixty physicans in each judicial district who may be called as medical expert witnesses by the trial court or by any party to a civil or criminal action in any of the courts of this state, and who when so called shall testify and be subject to full examination and cross-examination as other witnesses are. Any designation may at any time be revoked without notice or cause shown, and any vacancy may at any time be filled by the justices sitting in the appellate division.

Sec. II. When so directed by the trial court witnesses so called shall receive for their services and attendance such sums as the presiding judge may allow, to be at once paid by the treasurer or other fiscal officer of the county in which the trial is had.

Sec. III. This act shall not be construed as limiting the right of parties to call other expert witnesses as heretofore.

Sec. IV. This act shall take effect Sept. 1, 1909.

Impressions of America.—Many foreign exchanges publish articles by scientists who had attended the International Tuberculosis Congress at Washington. Krause (*Med. Klinik*, January 10) remarks that he never heard so many fine and witty dinner speeches as at the various banquets he attended. He deplores the ice-cold beverages. Even the physicians drank them. "No wonder," he adds, "that there are so many dyspeptics in America." He cast an envious eye on the university ball grounds, gymnasium and swimming tank at Philadelphia. He remarks that the measures adopted against tuberculosis in this country do not differ materially from those in vogue in Europe, but that Biggs' arrangements for notification of cases of tuberculosis (New York) are absolutely ideal, and he wishes that German cities had such a faultlessly working institution.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

THE PATIENT'S RIGHT TO CHANGE HIS PHYSICIAN

To the Editor:—A few weeks ago a well-known neurologist saw a case of paralysis agitans with me in consultation, and we agreed on a line of treatment which I at once instituted. By chance I met the consultant at a medical dinner, recently, and he informed me that my patient had consulted him that day and that he had given the patient some medicine to overcome melancholia. 1. Does a consultant act within ethical rules when he advises a patient without first attempting to reach the attending physician? 2. Does the fact that the patient prefers the consultant to his former physician relieve the consultant from all suspicion of hunting on the preserves of the general practitioner? My experience has been, during the past twenty-five years, that consultants have very elastic consciences. INQUIRER, Chicago.

ANSWER.—1. Assuming the facts to be as stated, the consultant did wrong in prescribing for the patient without either (1) a consultation with the attending physician; (2) a request or permission from that physician to do so; or (3) an express statement from the patient that he had notified his former physician of his intention of placing himself in future entirely under the care of the consultant. In the absence of such assurance, medical advice (save in a dangerous emergency, such as does not appear on the face of the evidence in this case) should have been refused until after that course had been adopted.

2. As to the suspicion that such a transfer necessarily implies a "hunting by the consultant on the preserves of the general practitioner," it may be remarked that to suppose that, because a patient transfers his allegiance, he must necessarily have been unduly influenced by the one to whom he transfers it, is to credit human beings with less initiative of their own than they usually possess. Moreover exception must be taken to the idea involved in the expression "the preserves of the general practitioner." So far as the patient is concerned, it must be remembered that he has a right to change his physician as often as he pleases for any reason, good, bad or indifferent, or even for no reason at all, provided only that he is frank about it with his previous physician. It is, however, an obligation on every honorable physician, when consulted under such circumstances, to ascertain whether such a frank and courteous notice of withdrawal has been given to the attending physician, and in default thereof, to insist on that course being taken prior to taking charge of the case.

The fact that the former patient "prefers the consultant to his former physician," of course can not "relieve the consultant from suspicion" of unfair procedure, but neither is it *per se* justifiable ground for arousing it. Every act of every individual may arouse, on the part of those prone to suspect, a suspicion of improper motives. The real question is, what reasonable grounds exist for such suspicion? These must be one or both of the following: (1) Knowledge as to the disloyal character, generally, of the person suspected; (2) knowledge of circumstances tending to show that the action suspected actually took place. In the absence of one of these factors there should not exist, in a right-minded person, any suspicion requiring to be relieved.

PRACTICAL BOOKS ON UP-TO-DATE BACTERIOLOGY

To the Editor:—In these days of the making of books it is not often that the general practitioner has a chance to ask for more or for a new kind, and yet I believe that there is a serious lack of works on a very important subject—vaccine therapy; and this has come about from the rapid rise of interest in this form of treatment. The book needed is a clinical bacteriology; one that will tell briefly the identity of the one or more varieties of microorganisms which commonly produce the various forms of disease we are called every day to treat. Suppose, for example, I wish to treat a case of bronchopneumonia, or of suppuration of the middle ear, by the vaccine method; I am at a loss to know what vaccine to use, and even when I am prepared to make a vaccine from the flora found in the sputum or discharge, I do not know which of the various organisms present is the principal offender.

If such a book exists I shall be glad to hear of it, and I feel sure that there are others in the same position as I find myself in this matter. HENRY POWER, Spokane, Wash.

HYPEREMIA IN GYNECOLOGY

To the Editor:—In Dr. Arthur Stein's article on the above subject (THE JOURNAL A. M. A., Jan. 23, 1909), he says: "In such cases it is best to stop the treatment and try to bring about an absorption of the pus by other means." Later he says: "Pus when present must always be evacuated by surgical means." I fancy the readers of Dr. Stein's article will acquire a very hazy idea of what he considers the proper method of handling pus in the pelvis. I suspect that his attitude is a soundly scientific one, but he is

self-contradictory in his article. May I ask for enlightenment? Pus in the pelvis is a very important condition and not to be considered lightly or in an off-hand fashion. My own views as to dealing with such conditions are pretty well crystallized, but the general practitioner's notions are not likely to be very definite if he is handed out loosely constructed literature on the subject.

G. FRANK LYDSTON, M.D., Chicago.

[Proof of the above was submitted to Dr. Stein, who replies as follows:]

It is to be regretted that this is another instance in which individual sentences have been selected to prove just what the author does not mean. That the writer of the above may obtain the enlightenment he requests I beg of him to reread the entire paragraph from which he has quoted. In the sentence preceding the one mentioned I spoke of "an old encapsulation of pus somewhere in the inflammatory process, *one that has not been detected by the finger of the examiner.*" I do not believe that there can be any possibility of a misunderstanding, as I spoke only of old, chronic suppurative inflammations where, as experience proves, surgical interference is not indicated. These are the cases in which even after repeated probatory puncture one may only obtain a few drops of a thick and usually sterile pus. Such cases are universally treated conservatively. If in the same paragraph I suggested following the old surgical adage, "ubi pus ibi evacua," I depended on the reader's intelligence still to remember the beginning of the paragraph and the words "not been detected." On the other hand, when a fluctuating abscess is distinctly felt, one would naturally incise and drain without hesitation.

BOOKS ON HYPNOTISM, SUGGESTION AND PSYCHOTHERAPY

To the Editor:—Please give me a list of authoritative books on hypnotism and suggestion. J. E. B. ZIEGLER, Baltimore.

ANSWER.—A list of the more important works on hypnotism and mental suggestion was published in THE JOURNAL, Feb. 29, 1908, p. 710. To this list may be added the following:

Tuckey, C. L.: "Hypnotic Suggestion." G. P. Putnam's Sons, New York. $3.00.

Mason, O.: "Hypnotism and Suggestion." H. Holt, 29 W. Twenty-third St., New York. $1.50.

Moll, A. "Hypnotism." Charles Scribner's Sons, New York. $1.50.

Emmanuel Movement: "Religion and Medicine: The Moral Control of Nervous Disorders," Worcester, McComb and Coriat. Moffat, Yard & Co., New York. $1.50.

Any one seriously taking up the study of mental therapeutics should certainly read the last-named book, altogether independently of his views on this much discussed movement. In addition to the foregoing the following articles may prove of assistance:

Barker, L. F.: "Psychotherapy," THE JOURNAL, Aug. 1, 1908, p. 368.

Edes, R. T.: "Present Relations of Psychotherapy," THE JOURNAL, Jan. 9, 1909, p. 92.

Achorn, J. W.: "Habit Cure; Mental and Physical," *Boston Medical and Surgical Journal*, Aug. 22, 1907, p. 260.

Mills, C. K.: "Psychotherapy; Its Scope and Limitations," *Monthly Cyclopedia and Monthly Bulletin*, July, 1908.

Scripture, E. W.: "Detection of Emotions by the Galvanometer," THE JOURNAL, April 11, 1908, p. 1164.

Scripture, E. W.: "Experiments on Subconscious Ideas," THE JOURNAL, Feb. 16, 1908, p. 521.

A working knowledge of the methods of modern psychology forms a good groundwork for the study of suggestive therapy. A useful book on this subject is "Thinking, Feeling, Doing," by E. W. Scripture, G. P. Putnam's Sons, New York, 1907.

INJURY TO EYE FROM TUBERCULIN REACTION

To the Editor:—Please cite references to literature giving instances in which the eye was permanently injured as a result of using tuberculin in the ophthalmic reaction.

F. P. CALHOUN, M.D., Atlanta, Ga.

ANSWER.—The following articles may be referred to, as giving cases of permanent injury or extremely severe reaction:

Clark, C. P.: THE JOURNAL A. M. A., June 20, 1908, p. 2061 (gives a summary of cases in which severe reaction occurred).

Collin, R.: Drawbacks and Dangers of the Ocular Tuberculin Reaction, *Med. Klin.*, Feb. 2, 1908.

Delorme (in discussion on Calmette's paper): *Bull. de l'Acad. de méd.*, lxxii, Jan. 21, 1908.

Eisen, P.: *Beitr. z. Klin. d. Tuberk.*, 1907, viii, 4.

Feer, E.: *München med. Wchnschr.*, Jan. 7, 1908.

Goerlich, M.: Is the Conjunctival Reaction Free from Danger? *München med. Wchnschr.*, June 30, 1908.

Kalt, M.: *Ophthalmoscope*, Dec. 1, 1907.

Napier, A.: *Glasgow Med. Jour.*, January, 1908.

Rosenau, M. J., and Anderson, J. F.: The Ocular Reaction to Tuberculin; A Warning, THE JOURNAL A. M. A., March 21, 1908, L, 961.

Satterlee, E. R.: THE JOURNAL A. M. A., June 27, 1908, L, 2133.

Török: Ophth. Sect. N. Y. Acad. Med., May 19, 1908.

Trousseau: *Jour. de méd. et de chir. prat.*, Jan. 10, 1908.

Von Durme and Stocke: *Presse méd.*, March 14, 1908.

Weber, F. P.: *Deutsch. med. Wchnschr.*, Feb. 20, 1908, xxxiv, No. 8.

Webster and Kilpatrick: *Brit. Med. Jour.*, Dec. 7, 1907.

Wiens and Gunther: *München. med. Wchnschr.*, Dec. 24, 1907.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Feb. 6, 1909:

Hoff, J. VanR., col., ordered, upon expiration of present leave of absence, to Chicago, Ill., for duty as chief surgeon, Department of the Lakes.

Rand, I. W., major, ordered to duty at Fort DuPont, Del., on arrival in the United States.

Carter, E. C., lt.-col., ordered to Chicago for temporary duty as chief surgeon, Department of the Lakes.

Banister, J. M., lt.-col., ordered to Omaha for temporary duty as chief surgeon, Department of the Missouri.

Persons, E. E., capt., granted leave of absence for seven days.

Cox, Walter, Bispham, W. N., capts., relieved from duty in Philippines Division in time to sail April 15 for San Francisco.

Whitcomb, C. C., capt., granted leave of absence for four months on arrival in United States from Cuba.

Van Dusen, J. W., capt., relieved from duty at Fort Crook, Neb., and ordered to Fort Riley, Kan., for duty.

Frick, E. B., major, ordered to Fort McDowell, Cal., for duty on return from Cuba with troops.

Duval, D. F., major, ordered to Fort Sill, Okla., for duty on return from Cuba with troops.

Hess, L. T., major, ordered to Fort Leavenworth, Kan., for duty on return from Cuba with troops.

Gilchrist, H. L., major, ordered to Fort Omaha, Neb., for duty on return from Cuba with troops.

Shook, J. R., capt., ordered to Chicago for duty as attending surgeon on return from Cuba with troops.

Bartlett, C. J., capt., ordered to Fort Andrews, Mass., for duty on return from Cuba with troops.

Truby, W. F., major, ordered to Fort Bayard, N. M., for duty at the Army General Hospital, on return from Cuba with troops.

Murray, Alex., capt., relieved from duty with the Isthmian Canal Commission; granted leave of absence for three months.

Blanchard, R. M., capt., ordered to accompany troops from Fort Sheridan, Ill., to San Francisco.

Thomason, H. D., capt., granted leave of absence for one month.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ending Feb. 6, 1909:

Nash, F. S., surgeon, detached from the Naval Academy and ordered home to wait orders.

Dessez, P. T., P. A. surgeon, ordered to the *Denver*.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 3, 1909:

Stoner, G. W., surgeon, granted 2 days' leave of absence from Jan. 29, 1909, under paragraph 189, Service Regulations.

Wertenbaker, C. P., surgeon, directed to proceed to Raleigh, N. C., on special temporary duty.

Nydegger, James A., P. A. surgeon, directed to proceed to Washington, D. C., and report to chairman of board of medical examiners to determine his fitness for promotion to the grade of surgeon.

Warren, B. S., P. A. surgeon, granted 10 days' leave of absence from Jan. 27, 1909.

Salmon, Thomas W., P. A. surgeon, granted 30 days' leave of absence from Feb. 1, 1909.

Marshall, E. R., asst.-surgeon, granted 2 days' leave of absence from Feb. 11, 1909.

Preble, Paul, asst.-surgeon, granted 73 days' leave of absence from Oct. 26, 1908, on account of sickness.

Kastle, Joseph H., chief division chemistry, hygienic laboratory, granted 11 days' extension of leave of absence from Jan. 2, 1909, on account of sickness.

BOARD CONVENED

Board of medical officers convened to meet at the bureau Feb. 1, 1909, for the examination of P. A. Surgeon James A. Nydegger, to determine his fitness for promotion to the grade of surgeon. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General J. M. Eager; Surgeon W. P. McIntosh, recorder.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended Feb. 5, 1909:

SMALLPOX—UNITED STATES

Alabama: Mobile, Jan. 16-23, 1 case, imported; Mobile county, Jan. 31, 5 cases.

California: Los Angeles, Jan. 9-16, 2 cases.

Illinois: Danville, Jan 17-24, 1 case.

Indiana: Elkhart, Jan. 16-23, 2 cases; Fort Wayne, Jan. 9-16, 1 case; Indianapolis, Jan. 17-24, 1 case; Lafayette, Jan. 18-25, 2 (9) cases.
Kansas: Kansas City, Jan. 16-23, 1 case; Topeka, Jan. 9-23, 15 cases.
Kentucky: Covington, Jan. 16-23, 2 cases; Lexington, Jan. 16-23, 6 cases.
Louisiana: New Orleans, Jan. 16-23, 1 case; Shreveport, Jan. 1-20, 32 cases, 1 death.
Maine: Van Buren, Jan. 16-23, 8 cases.
Maryland: Baltimore, Jan. 31, 1 case, imported.
Minnesota: Duluth, Jan. 14-21, 1 case, imported.
Ohio: Cincinnati, Jan. 8-22, 49 cases, 1 death; Tiffin, Jan. 16-23, 1 case.
Pennsylvania: Harrisburg, Dec. 18-29, 3 cases.
Tennessee: Nashville, Jan. 16-23, 6 cases.
Texas: Laredo, Feb. 4, 1 case; San Antonio, Jan. 16-23, 4 cases.
Virginia: Lynchburg, Jan. 16-23, 1 case.
Washington: Tacoma, Jan. 3-17, 17 cases.
Wisconsin: La Crosse, Jan. 16-23, 3 cases; Manitowoc, 1 case; Milwaukee, Jan. 9-23, 40 cases.

SMALLPOX—FOREIGN

Australia: New Castle., Nov. 23-30, 1 case.
Brazil: Para, Dec. 26-Jan. 9, 2 cases, 3 deaths; Rio de Janeiro, Dec. 13-27, 253 cases, 111 deaths.
Canada: Halifax, Jan. 9-16, 4 cases; Hamilton, Jan. 16-23, 1 case.
Chile: Talcaguana, Jan. 2, present.
China: Amoy, Dec. 12-19, present; Shanghai, Dec. 5-12, 2 cases.
Greece: Athens, Dec. 26-Jan. 2, 1 death.
India: Bombay, Dec. 22-29, 4 deaths; Calcutta, Dec. 5-12, 6 deaths; Rangoon, Dec. 12-19, 1 case.
Indo-China: Saigon, Dec. 1-19, 4 cases, 2 deaths.
Italy: General, Dec. 27-Jan. 10, 19 cases.
Mexico: Monterey, Jan. 10-17, 1 death; Veracruz, Jan. 2-9, 1 case.
Netherlands, The: Rotterdam, Jan. 9-16, 1 case.
New Foundland: St. Johns: Jan. 16-23, 1 case, vessel.
Peru: Lima, Dec. 24, 8 cases, in Lazaretto.
Russia: Moscow, Dec. 9-16, 13 cases, 7 deaths.
Siberia: Vladivostok, Dec. 13-20, 1 case.
Spain: Valencia, Dec. 26-Jan. 9, 7 cases; Viga, Dec. 26-Jan. 2, 2 cases.
Turkey: Constantinople, Dec. 27-Jan. 10, 8 deaths.

YELLOW FEVER

Brazil: Bahia, Feb. 1, epidemic; Manaos, Dec. 12-19, 1 death.
Dutch Guiana: Paramaribo, Dec. 18-Jan. 2, 21 cases, 6 deaths.
Mexico: Merida, Jan. 9-16, 2 cases; San Bernardino, vicinity of Mexcanu, Jan. 9-16.

CHOLERA

India: Bombay, Dec. 22-29, 18 deaths; Calcutta, Dec. 5-12, 10 deaths.
Russia: St. Petersburg, Jan. 13-15, 67 cases, 22 deaths.

PLAGUE

Brazil: Bahia, Feb. 1, epidemic; Rio de Janeiro, Dec. 11-27, 15 cases, 9 deaths.
Chile: Iquique, Dec. 28, 1 case.
India: General, Dec. 12-19, 2,449 cases, 1,788 deaths; Bombay, Dec. 22-29, 4 deaths; Calcutta, Dec. 5-12, 9 deaths; Rangoon, Dec. 12-19.
Peru: General, Dec. 18-24, 30 cases, 20 deaths; Callao, Dec. 24-Jan. 2, 2 cases, 1 death; Lima, 3 cases, 2 deaths.

Association News

NEW MEMBERS

List of new members of the American Medical Association for the month of January, 1909:

ALABAMA

Atwood, A. L., Birmingham.
Batson, D. C., Gants Quarry.
Clements, H. C., Benton.
Frazier, Alfred S., Thomaston.
Rucker, Jr., E. W., Birmingham.

ARIZONA

Alexander, R. L., Tempe.
Armstrong, J. J. P., Douglas.
Bechtel, A. D., Tucson.

ARKANSAS.

Biggs, Orvis E., Hot Springs.

CALIFORNIA

Campbell, G. E., Pasadena.
Hanlon, Edward W., Los Angeles.
Stephens, J. M., San Francisco.
Thompson, C. E., Dunsmuir.
Whitney, Jas. L., San Francisco.
Zelinsky, Frank, Los Angeles.

COLORADO

Blickensderfer, G. M., Denver.
Engelson, C. J., Denver.

CONNECTICUT

Rindge, Milo P., Madison.

DISTRICT OF COLUMBIA

Briggs, John B., Washington.
Callan, C. V. N., Washington.

FLORIDA

Denton, Jno. Thomas, Sanford.
Holden, Gerry R., Jacksonville.

GEORGIA

DuPree, D. H., Athens.

ILLINOIS

Aimone, John, Granville.
Cleminson, Haldane, Chicago.
Connell, Jas. A., No. Chicago.
Davis, Charles L., Robinson.
Dudley, Gerry B., Charleston.
Fair, F. F., Chicago.
Fischmann, E. W., Chicago.
Friesen, J. Frank, Chicago.
Hamilton, D. S., Chicago.
Lowenthal, Louis, Chicago.
Manning, Leonard, Chicago.
Oughton, Jas. H., Dwight.
Toner, T. J., Chicago.
Willits, I. R., Chicago.
Wyant, A. R. E., Chicago.

INDIANA

Allin, Jno. H., Corunna, Ind.
Carter, Jas. H., Seymour.
Elrod, S. B., Henryville.
Emmick, T. C., Mt. Vernon.
Glackman, J. C., Hatfield.
Lawson, W. T., Danville.
Lindenmuth, E. Oscar, Indianapolis.
Merz, Henry G., Ft. Wayne.
Murphy, N. W., Poseyville.
Nusbaum, Jay D., Auburn.
Small, Emery F., Decker.
Spilman, F. J., Connersville.
Staley, T. M., Bicknell.
Varble, W. Marshall, Gary.
Willis, J. Herbert, Evansville.
Wilson, Dalton, Yankeetown.

IOWA

Boyd, Frank E., Colfax.
Glann, R. C., Bronson.
Limburg, J. I., Farley.
McConkie, W. A., Cedar Rapids.
McDowell, W. O., Grundy Center.

KANSAS

Davis, J. T., Independence.
Edwards, J. B., Chanute.
Holt, T. T., Geuda Springs.
Hudiburg, Walter S., Independence.
James, R. W., Winfield.
Kackley, L. B., Parsons.
Parrington, J. M., Emporia.
Rader, J. A., Caney.

KENTUCKY

Buntin, H. H., Carlisle.
Durrum, A. H., Myers.
Harper, J. H., Gimlet.
Hart, P. A., Murray.
Haston, Fred D., Rim.
Helms, Jas. E., Louisville.
Humphrey, P. S., Ashland.
Hunter, Sylvester G., Sandy Hook.
Malkin, G. Morris, Louisville.
Meredith, H. M., Scottsville.
Muster, B. A., Lyons.
Nolan, J. W., Holland.
Brennan, J. A. O., Louisville.
Rosenham, C. J., Louisville.
Sutton, K. P., Lewisburg.
Swango, S. S., Valeria.
Threlkeld, R. L., Louisville.
Whitlow, E. A., Scottsville.

LOUISIANA

Boaz, T. D., Juanita.
Knoefel, William R., Bonita.
Talbot, Paul G., New Orleans.

MAINE

Allen, George A., Lovell.
Floyd, A. E., E. Machias.
Loughlin, J. W., Round Pond.

MARYLAND

Bernheim, B. M., Baltimore.
Buxton, G. F., Baltimore.
Glantz, Frank A., Baltimore.
Hoopes, Fannie C., Baltimore.
Hyde, Harry C., Baltimore.
Koon, T. W., Cumberland.
Landers, A. E., Crumpton.
Love, Wiliam S., Baltimore.
McAvoy, M. J., Baltimore.
Muse, B. P., Baltimore.
Stabler, Augustus, Brighton.

MASSACHUSETTS

Barry, J. H., Boston.
Creeley, O. S., Watertown.
Harris, L. W., Malden.
Lancaster, W. B., Amherst.
Wells, Frank, Boston.
Young, W. H., E. Dedham.

MICHIGAN

Butler, S. A., Pontiac.
Dumbauld, D. F., Blissfield.
Eastman, C. W., Three Oaks.
Emerson, Enoch, Spring Arbor
Hancock, E. E., Coldwater.
Hodges, Lewis S., Tekonsha.
Hoyt, W. F., Paw Paw.
Hungerford, P. R., Concord.
Kar, H. S., Winona.
Knapp, H. D., Linden.
Lackie, D. J., Grindstone City.
McAlpine, A. D., Detroit.
McCue, Christopher, Goodells.
Metcalf, A. A., Hancock.
Mitchell, James, Gladstone.
More, George W., Ionia.
Peterson, E. S., Jackson.
Royer, W. A., Mendon.
Scoville, B. P., Constantine.
Spicer, W. E., Jackson.
Springer, Menno, St. James B. I.
Strahan, D. H., Pewamo.
Sugnet, W. J., Gagetown.
Van Antwerp, S. C., Vicksburg.
Weeks, Robert E., Augusta.
Wiggers, Carl J., Ann Arbor.
Winchell, G. P., Ionia.

MINNESOTA

Gordon, David, Albert Lea.
Johnson, H. Amanda, Minneapolis.
Kusske, A. L., Sanborn.
MacDonald, I. C., Minneapolis.
Magnusson, H. V., Minneapolis.
McEachran, A., Minneapolis.
Weiser, G. B., New Ulm.

MISSISSIPPI

Longino, J. G., Jonestown.
Martin, L. H., Hattiesburg.
Weissinger, A. J., Hernando.

MISSOURI

Ambrose, O. A., St. Louis.
Bonnot, Edmond, St. Louis.
Boyd, J. R., Springfield.
Brown, George S., Edina.
Bruce, J. R., Marshfield.
Bunch, R. J., St. Louis.
Calhoun, J. G., St. Louis.
Fischer, W. E., St. Louis.
Grimes, Marvin, Hardin.
Mayfield, M. H., Springfield.
Oehler, E. F., St. Louis.
O'Reilly, J. A., St. Louis.
Rotter, C. F., St. Louis.
Thompson, G. R., St. Joseph.
Vandivert, A. H., Bethany.
Wentker, B. P., St. Charles.

MONTANA

Buchen, F. E., Hamilton.
Clancy, D. F., Virginia City.

NEBRASKA

Detwiler, A. K., Omaha.
Stewart, Alfred J., Mitchell.

NEVADA

Rhyan, W. W., Goldfield.

NEW JERSEY

Barber, Isaac, Phillipsburg.
Davis, L. R., Newark.
Emory, G. B., Newark.
Parry, Edward, Camden.
Stinson, Richard, Paterson.
Sullivan, M. J., Englewood.
Ward, L. A., Camden.

NEW MEXICO

Priest, Howard, Fort Bayard.
Sunderland, W. E., Estancia.

NEW YORK

Adams, J. L., New York City.
Benjamin, W. C., Almond.
Berk, A. B., New York City.
Bowerman, E. A., Buffalo.
Buck, Francis D., New York City.
Castelli, Alfonso, New York City.
Druskin, S. J., New York City.
Fitzgerald, F. J. C., New York City.
Fried, G. A., New York City.
Graney, Charles D., LeRoy.
Hubbell, G. L., Hobart.
Keeler, J. W., Jr., Hammondsport.
Kepke, John, Brooklyn.
Noehren, A. H., Buffalo.
North, C. E., New York City.
Orchard, N. G., Rochester.
Potter, Alfred, Brooklyn.
Prentiss, R. N., Brooklyn.
Pumyea, P. C., New York City.
Rogers, E. H., New York City.
Rosanoff, A. J., Kings Park.
Schoenenberger, F. J., New York City.
Stoup, R. J., Syracuse.
Walker, H. D., Buffalo.

OHIO

Austin, Mary L., Gallipolis.
Bachman, U. M., Cleveland.
Bode, Mildred J., Cincinnati.
Bruening, A. H., Cleveland.
Crawford, G. M., Lorain.
Gunsolly, William N., Cleveland.
Heberding, John, Youngstown.
Ireland, William E., Washington C. H.
Hunt, M. L., Akron.
Knoop, E. T., Cincinnati.
Krause, C. R., Cleveland.
Moore, Jesse M., Cleveland.
Wheatley, W. E., Lorain.
Townsend, C. E., Steece.

OKLAHOMA

Austin, J. L., Durant.
Byrum, James M., Shawnee.
Graves, William C., McAlester.
Ogden, William H., McAlester.
Reeves, W. B., Wapanucka.
Smith, J. B., Durant.
Swearingin, C. H., Hugo.
Wallace, W. J., Oklahoma City.
Weir, M. W., Oklahoma City.
Welsh, S. H., Dacoma.

OREGON

McArthur, J. H., Portland.

PENNSYLVANIA

Atkins, G. H., Philadelphia.
Balsinger, W. E., New Castle.

Blakeslee, W. H., Philadelphia.
Cadwalader, J. S., Wexford.
Custer, Ella B., Philadelphia.
Davis, Fannie, Oil City.
Gulick, Esther W., Stroudsburg.
Hartman, W. L., West Pittston.
Hunsicker, Hannah M., Philadelphia.
Ingraham, S. C., Philadelphia.
Janvier, G. V., Royersford.
Levengood, B. B., Bellwood.
L'Amoreaux, S. H., Stroudsburg.
Ludy, J. B., Stroudsburg.
Mershon, O. F., Philadelphia.
Miller, N. C., Stroudsburg.
Wiley, H. E., Philadelphia.
Zook, Joseph A., Belleville.

RHODE ISLAND

Fitzgerald, V. L., Providence.
Thompson, E. G., Providence.

SOUTH CAROLINA

Sawyer, Olin, Georgetown.

SOUTH DAKOTA

Housman, W. M., Dell Rapids.

TENNESSEE.

Hill, Charles L., Nashville.
Noblitt, B. E., Fayetteville.
Saliba, J. A., Athens.

TEXAS

Currie, James D., Paluxy.
Davis, R. L., Princeton.
Fuller, T. E., Texarkana.
Lanham, H. M., Waco.
Morton, G. V., Ft. Worth.
Naylor, S. D., Stephenville.
Weeks, W. R., El Paso.
Wiesh, Moses, El Paso.

VERMONT

Blodgett, J. H., Bellows Falls
Sprague, L. P., Burlington

VIRGINIA

Anderson, M. L., Richmond.
Davenport, W. L., Meadow View.
Holman, W. M., Lee.
Kent, J. L., Lynchburg.
Miller, F. C., Cobham.
Noblin, J. A., Roda.
Williams, J. R., Richmond.
Wright, R. H., Richmond.

WASHINGTON

Elmore, Bruce, Seattle.
Else, J. E., Pullman.
Harbison, J. G., Spokane.
McCormack, P. D., Spokane.

WEST VIRGINIA

Prichard, Karl C., Huntington.
Haning, N. A., Wheeling.
Nunemaker, Tunis, Williamson.

WISCONSIN

Addleman, I. M., Wausau.
Campbell, L. A., Clear Lake.
Darby, G. S., Brodhead.
DeVoe, Charles A., Rosendale.
Donaldson, G. F., Shiocton.
Gleason, C. M., Manitowoc.
Irvine, Wesley, Manawa.
Krueger, Bernard., Cudahy.
Layton, O. M., Fairwater.
Martens, Wm. A., New Holstein.
Sartell, E. N., Hancock.
Schmidt, J. A., Brillion.
Smith, S. M., Milwaukee.
Thurtell, Herbert, Manitowoc.
Ward, J. P., Waukesha.
Wheeler, W. P., Oshkosh.

WYOMING

McDonald, G. E., Superior

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Proposed State Legislation

During the past week the following bills have been reported to the Bureau of Medical Legislation:

INDIANA

S. B. 15 provides for sanitary school-houses and inspection of the buildings as well as for medical inspection of the children. This most important bill was introduced by Senator McCarty, referred to the Committee on Education and favorably reported. It provides that all school-houses which shall hereafter be constructed in the state must be on dry and well-drained sites not nearer than 500 feet to any steam railroad, noise-making industry, or to any unhealthful conditions. Good walks and suitable playgrounds must be provided. Buildings must be dry, well-lighted and thoroughly fireproof, and must be supplied with pure drinking-water from driven wells or other sources approved by the health authorities. Heating, ventilation, toilet facilities and out-houses are provided for. Any school trustees who shall build any school-house which violates the provisions of this law are liable to a fine of from $100 to $500, and any claim for material or construction of any school-house that does not in every respect comply with the law is declared void. Provisions are also made for the cleaning of school-houses, for the medical inspection of school children, and for the use of text-books giving proper instruction in hygiene.

KANSAS

H. B. 135 to amend the existing laws regulating the purity of the waters of the state, has been reported on favorably by the committee on hygiene and public health. H. B. 301 is to authorize an annual conference of state and local boards of health. H. B. 124 provides for the regulation and inspection of hotels and public lodging-houses. H. B. 196, to prohibit the sale or giving away of cigarettes and cigarette papers, has been reported on favorably. S. B. 209, to define the powers and duties of local health officers and boards of health in the prevention of tuberculosis, has been reported on favorably by the senate committee on temperance and hygiene.

NEW HAMPSHIRE

H. B. 164 is to regulate the sale of narcotic drugs. H. B. 236 is to amend the food and drugs law of 1907 by establishing certain standards. H. B. 237 is to regulate the production and distribution of food products and to specify the kind of buildings which can be used for this purpose. H. B. 260 provides for the appointment of one or more school physicians in every city and town. H. B. 331 provides for the establishment of dispensaries for the free treatment of indigent persons suffering from tuberculosis, such dispensaries to be established by the state board of health and to be used for the dissemination of knowledge regarding the prevention and cure of tuberculosis, the study of social and occupational conditions predisposed to its development and the continuation of research experiments for the establishment of immunity and cure. H. B. 341 is to amend the law relating to the sale of drugs and medicines by providing for reciprocity in issuing licenses to apothecaries and druggists. H. B. 402 provides for the inspection of barbershops. H. B. 409 provides that all drains and sewers in the state must be covered. H. B. 480 is to give authority to the State Board of Health to publish and distribute information and instruction and to make rules to prevent ophthalmia neonatorum in public hospitals or institutions and in the practice of licensed midwives. S. B. 11 is to amend the public school law regarding vaccination, providing that no child shall attend any school in the state unless he has been vaccinated, has had smallpox, has submitted to the process of vaccination not less than three times, or holds a certificate of a registered physician that he is an unfit subject for vaccination.

OREGON

H. B. 18 is to prohibit the advertising of treatment or cure of venereal and other diseases and disorders and to make the owner or managing officer of any newspaper which shall print or publish such advertisements equally responsible with the person advertising and subject to imprisonment for one to six months. H. B. 41 provides for the inspection and regulation of dairy creameries and cheese factories. H. B. 141 provides for the suppression of contagious diseases among animals and for the addition of a veterinary surgeon to the state board of health. H. B. 142 is to prohibit the sale or giving away of cigarettes. H. B. 143 is to require all railroads operating in the state to furnish on all passenger coaches toilet facilities, running water and clean towels. H. B. 177 to prohibit the collection of hospital fees by any person or corporation, is evidently aimed at lumber and mining companies which have established company hospitals supported by assessments levied on their employés. H. B. 195 provides for the labeling of baking-powder. H. B. 216 provides for the appointment of county fruit inspectors who shall examine all orchards, nurseries, packing-houses and sales-rooms for fruit infected with any pest diseases or fungus. S. B. 24 provides for the establishment of county tuberculosis sanatoria. S. B. 26 is to regulate the quality of milk, cream, butter and cheese and the manner of conducting dairies. S. B. 37 provides that a medical certificate showing freedom from contagious venereal disease shall be required as a requisite for a marriage license. S. B. 68 is a bill similar to the Indiana sterilization law, providing for the sterilization of confirmed criminals, insane persons, idiots, etc., authorizing the appointment of boards to examine into the mental condition of such persons and defining confirmed criminals as those serving a third term in any penitentiary or penal institution on conviction of a felony. S. B. 76 provides for state sanatoria for tuberculosis. S. B. 112 is to regulate the use of commercial feed stuffs in feeding live stock and domestic animals. S. B. 118, to amend the act regarding delinquent and dependent children, also provides for juvenile courts. S. B. 126 is to forbid the manufacture and sale of bleached or chemically treated or misbranded flour; it provides for the labeling of all packages or containers of flour.

SOUTH DAKOTA

S. B. 66, a long pure food bill, providing for a state food and dairy commission, is apparently drawn up along the lines of the model pure food bill drafted by the committee on uniform legislation of the Association of State and National Food and Dairy Departments. It contains the provisions for food standards endorsed by that body. H. B. 116 is to establish a sanatorium for tuberculosis at Custer, S. D.

UTAH

S. B. 41 provides for a state department of public health and state bacteriologic and pathologic laboratory for scientific research as to the cause, cure and prevention of disease. S. B. 42 provides for a state veterinarian and S. B. 43 for a state chemist and the establishment of a state chemical laboratory. These three bills were introduced by Senator Stookey and have been referred to the Committee on Public Health.

Dr. McCormack in North Carolina

Dr. J. N. McCormack spoke before a joint session of the General Assembly of North Carolina at a meeting held in the house of representatives at Raleigh on the evening of February 4. Speaker Graham of the house presided and Dr. R. H. Lewis, secretary of the North Carolina Board of Health, introduced Dr. McCormack and Dr. C. P. Wertenbaker of the U. S. Health and Marine-Hospital Service, who spoke on the control of tuberculosis. The *Raleigh News and Observer* says: "Both speakers made irresistible appeals. The hall of the house and its galleries were filled with eager listeners, to whom the message of the speakers was a revelation, showing existing conditions of startling magnitude and fraught with untold evil." The following comment shows the impression produced: "Public health has not received the attention to which its importance entitles it. The public is coming to see its duty and people and press will cooperate more than ever with the health department in measures that will make for long life."

The addresses delivered by Dr. McCormack before state legislatures probably constitute one of the most valuable lines of work ever undertaken by the Association. The unanimous testimony where these meetings have been held has been that, following them, the members of the legislature have been more favorably disposed to public health legislation than ever before and have better understood the attitude of the medical profession toward sanitary legislation. Arrangements are being made for addresses before a number of other state legislatures during the winter.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Seventh Month—Second Weekly Meeting

LABOR

PHYSIOLOGY

DEFINITIONS.—Labor, confinement, accouchement, premature, at term, retarded, precipitate, slow, spontaneous, artificial. Normal, eutocia; normal forces, passenger, passages and mechanism. Abnormal, pathologic, dystocia; abnormal forces, passenger, passages or mechanism accidents.

PRECURSORY SYMPTOMS.—Increased uterine contraction, sinking, "settling" of uterus, vaginal discharge.

STAGES OF LABOR.—1, Dilatation of cervix; 2, expulsion of child; 3, expulsion of placenta and membranes; duration of each stage in primiparæ and multiparæ.

CAUSES OF LABOR.—Stimulation of central or uterine nerve centers; (a) direct, toxins (carbon dioxid, fetal, placental or ovarian products), menstrual periodicity, heredity; (b) reflex, fetal movements, distention of uterus, placental changes, infarcts, etc.

UTERINE CONTRACTIONS.—Intermittent, involuntary, forcible, general contractions of uterine muscles. (a) "Labor pains," character, location, intensity. (b) Effect on maternal circulation. (c) Effect on uterus; harden uterus; change in shape and position; efface and dilate cervix, lower uterine segment, contraction ring, dilatation of os; "bags of water," shape, rupture. (d) Effect on vagina and pelvic floor. (e) Expulsion of child. (f) Expulsion of placenta and membranes. Effect of abdominal contractions.

MECHANISM

OCCIPITO-ANTERIOR PRESENTATIONS.—Cause, time, duration, diagnosis, of each stage. (1) Descent; engagement, sagittal suture, synclitism, obliquity, moulding caput. (2) Flexion. (3) Internal rotation. (4) Extension. (5) External rotation. (6) Expulsion.

OCCIPITO-POSTERIOR PRESENTATION.—Mechanism, (a) with anterior rotation, (b) with posterior rotation, of occiput.

FACE PRESENTATION.—Causes, frequency, diagnosis. Mechanism: (1) Descent. (2) Extension. (3) Internal rotation. (4) Flexion. (5) External rotation. (6) Expulsion. Mechanism of persistent mento-posterior.

BROW PRESENTATION.—Frenquency, diagnosis, characteristic moulding mechanism.

BREECH PRESENTATION.—Abdominal and vaginal diagnosis, causes, frequency. Mechanism: (1) Descent. (2) Internal rotation. (3) Lateral flexion, displacement of arm. (4) External rotation. (5) Expulsion. In persistent sacro-posterior. Dangers to child, to the mother.

MECHANISM OF THIRD STAGE.—Situation of placenta, separation, extrusion, Duncan's, Schultze's method, expulsion from lower uterine segment, from vagina. Credé expression.

Society Proceedings

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Third Annual Meeting, held at Albany, Jan. 26-27, 1909

(Continued from page 457)

Intramuscular Injections in Syphilis

DR. VICTOR C. PEDERSEN, New York: By using six points of injection the same point does not have to be used until thirteen weeks have elapsed, the injections being given once a week. To obviate the pain incident to these injections, the patient is placed in such a position as will relax the gluteal muscles. In over 300 injections of a 20 per cent. solution of salicylate of mercury the results have been good, but the solution should be well shaken. After having been officially responsible for over 5000 injections in 3½ years I am convinced that this method has the following advantages: It is the most efficient of all methods; it keeps the patient under control of the physician because he must return every week for the injection; node formation of longer than two or three days' duration is very rare; embolism is very uncommon, less than 1 in 1,000 injections. The usual precautions of sterilization should be taken. Toxic accumulation is scarcely excusable if palpation of the point of the previous injection is made before giving the next injection. The salicylate of mercury seems to be so satisfactory that no other preparation need be considered. Continuation of the injections is necessary for the usual two or three years, with one or two months rest in each year. The patient's general health should be maintained at the highest possible level by attention to diet and hygiene.

Untoward Results with Diphtheria Antitoxin with Special Reference to Asthma

DR. HERBERT F. GILLETTE, Cuba, N. Y.: About a year ago I published a letter asking for reports of cases in which the injection of diphtheria antitoxin had been followed by alarming symptoms or death, especially noting whether there was any history of asthma in the cases. Out of 40 answers received the information was definite and positive concerning 23 cases. Out of the 23, 16 patients gave a history of some form of respiratory disease. Six of the 16 patients died and 10 went into a state of collapse, with final recovery. Seven of the 23 gave no history of respiratory distress and the fact was definitely determined. Four of the 7 cases died and 3 went into a state of collapse with final recovery. The conclusions based on these reports were as follows: 1. There is a certain element of danger if any form of horse serum is used in subjects who have suffered from any form of respiratory embarrassment such as asthma, the so-called cardiac or renal asthma; hay fever, with resulting asthma, subjects liable to irritation of the mucous membranes when about a horse or stable. 2. Collapse or death was accompanied by a respiratory crisis and, when death occurred, it took place usually in less than ten minutes from the time of injection. 3. The administration of any form of horse serum is liable to cause collapse or death, if the subject suffered from respiratory distress and it is not due to any form of the antitoxin, or to any error on the part of the maker of the serum or to the age of the serum, but to some highly organized proteid present in the serum and the reaction of the proteid causes the crisis. This reaction takes place only under certain conditions. 4. The heart continues to act long after respiration has ceased. This report is only a preliminary one.

Short Duration Typhoid Fever

DR. WARREN COLEMAN, New York: The term, "short duration typhoid fever" is used to include all types of the disease which last two weeks or less. The study was undertaken to discover the nature of the mild indefinite fevers which are seen in Bellevue Hospital during every typhoid season. The recovery of the typhoid bacillus from the blood in several cases led to a review of the entire subject. An astonishing confusion exists in literature concerning the milder and shorter forms of typhoid fever. The history of the diagnosis of the disease falls into two periods: (1) The period before the introduction of exact methods of diagnosis; (2) the period since the application of the Gruber test by Widal and the general employment of bacteriologic methods to the diagnosis of the disease. When the epidemiologic importance of the subject is considered it must be admitted that the study of the milder forms of typhoid has been greatly neglected. No one has yet undertaken to study the bacteriology of the blood in these cases. In the last five years, exclusive of 1908, 10 per cent. of 229 cases of typhoid fever on the second medical division have been of the short duration variety. The proportion of mild to severe cases varied in the different years. In 1904 they constituted 25 per cent. of the typhoids. The diagnosis in 20 of the 24 cases is not open to doubt since it rests on a positive serum reaction or a positive blood culture. The four remaining cases were diagnosed on clinical evidence. Judging from the literature, the diagnosis of mild typhoid is not often made. After an analysis of mortality statistics of typhoid in several of the large cities of this country, Reed, Vaughan and Shakespeare state that a large percentage of cases of this disease are not recognized as typhoid. The diagnosis of short duration typhoid can not be proven without laboratory methods. A patient's serum may give a positive reaction to the typhoid bacillus when the patient is not suffering from typhoid (e. g., typhoid cholecystitis and typhoid bacillus carriers). If a positive reaction appears transiently during the course of a febrile disease, not obviously due to some other cause, the diagnosis of typhoid is reasonably certain. Negative serum reactions possess no diagnostic value unless they are obtained daily throughout the febrile period and well into convalescence. Positive bacteriologic examinations of the stools and urine do not necessarily prove that the patient has or has had typhoid fever. There is urgent need from the epidemiologic standpoint of a more thorough study of short duration and irregular forms of typhoid fever.

Voluntary Patients in State Hospitals for the Insane

DR. ALBERT WARREN FERRIS, President of the State Commission of Lunacy: On Oct. 1, 1905, in fifteen hospitals for the insane in New York State, there were 26,423 patients. On Oct. 1, 1908, there were 29,421 patients. For many years the incidence of insanity in New York State has been such that over 6,000 new patients are received annually into the state hospitals. While about 2,000 patients die annually and many are discharged recovered or improved, the average net increase has been 715 each year. On Oct. 1, 1907, the net increase was 750, and on Oct. 1, 1908, the net increase amounted to 1,247. To meet this condition, existing hospitals have been enlarged as fast as money could be obtained for the purpose. The policy of physicians and friends of patients has been to delay until the insanity is well established and certification, adjudication and commitment are necessary. Many judges claim that in all alleged cases of insanity the subject should be taken into court in order that the matter may be decided and the patient committed or dismissed. The damage thus done the patient is not considered, but may never be repaired. Prof. Adolf Meyer suggests that a procedure resembling quarantine should be adopted for the protection of the family and the community and for the benefit of the patient. In this way all abuse of insane patients in jails and lockups would be avoided. In order to attain the results at which modern psychiatry aims, cases of mental disorder should be seen early. The borderline cases must be reached and saved from profound psychosis by early treatment when the mental equilibrium begins to waver. The State Commission in Lunacy has ruled that no patient can be admitted as voluntary "whose mind is so impaired as to render him incapable of forming a rational judgment as to the disposition of his person, or whose will is so weak as to render him incapable of resisting influence." The commission holds that "voluntary admissions" are patients whose liberty is not restricted, who are not insane within the meaning of the statute and who voluntarily remain under care. The commission introduced a bill into the legislature at the session of 1908 amending the insanity law so as to provide for the admission into all state hospitals except Matteawan and Dannemora of voluntary patients on their written application, pursuant to the regulations of the commission. The commission has ruled that no alcoholic patients without definite psychoses and no victims of drug habit without psychosis shall be admitted. Admission of voluntary patients has proved a success in several states. It is our duty to ascertain the causes of the alarming overproduction of insanity; to teach the people what dangers to avoid; to restrict demoralizing influences by law; and while there is still time to gain the patient's confidence to endeavor to adjust him to his environment. In order to accomplish these things successfully and to any extent, the patient must be seen early and hence the necessity for voluntary admissions.

DISCUSSION

DR. R. H. HUTCHINS, Ogdensburg: At Ogdensburg, where this law has been in operation since last June, only nine persons have been admitted under the act and all came realizing themselves that something was wrong with their minds. These patients were not insane, but only drifting in that direction.

DR. WILLIAM S. ELY, Rochester: The necessity of having psychiatric wards in every general hospital can not be too strongly emphasized.

DR. EDWARD D. FISHER, New York: I favor early treatment in these incipient cases of insanity and think that Dr. Ely's suggestion is good.

DR. W. H. KIDDER, Oswego: Civilization is becoming more and more complicated and there are constantly a greater number of people who can not accommodate themselves to it.

DR. ALBERT WARREN FERRIS, President State Commission in Lunacy: The State Commission in Lunacy agrees with Drs. Ely and Fisher and would like to have psychiatric wards in every general hospital. It was the opinion of this commission that these early cases should have the same care as advanced cases; there should be a resident physician to care for them. If patients were sent in earlier they could often be sent out earlier. This would save money to the state. The cost per patient in the state hospitals is very low, only $179.60.

(To be continued)

Marriages

JESSE H. BRIGGS, M.D., to Miss Bessie Madden, both of Churubusco, Ind., January 26.

JAMES FOWLER PRESSLEY, M.D., to Miss Ellen Page, both of San Francisco, January 28.

CHARLES S. HAMILTON, M.D., to Mrs. Elizabeth Loving Brown, both of Columbus, Ohio, January, 21.

VERNON C. MORSE, M.D., Cambridge, Mass., to Miss Mabel Miller Elliott of Clarence, N. S., January 21.

CHARLES ALLEN BETTS, M.D., Fort Lawton, Wash., to Mrs. Harriet Smith Lester of Seattle, December 12.

JOHN A. FERRELL, M.D., Kenansville, N. C., to Miss Lucile Deveraux Withers of Charlotte, N. C., January 28.

AUGUST SAUTHOFF, M.D., Madison, Wis., to ROSE MARY BLAKELIDGE, M.D., of La Grange, Ill., January 20.

WILLIAM A. KNOWLTON, JR., M.D., Independence, Ohio, to Miss Effie Margaret Dyer of Cleveland, January 27.

JOHN ALPHONSO O'DONOGHUE, M.D., to Miss Florence Cecelia Johnson, both of Washington, D. C., December 29.

GEORGE DELBERT JOHNSON, M.D., Fairmont, W. Va., to Miss Jessie Lee Jamison of Morgantown, W. Va., January 27.

WILLIAM GRAHAM ALEXANDER, M.D., Evanston, Ill., to Mrs. Bertha Edna Tubbs Patrick, of Des Moines, Iowa, January 26.

Deaths

George Rolla Highsmith, M.D. Missouri Medical College, St. Louis, 1875; Bellevue Hospital Medical College, New York City, 1883; a member of the American Medical Association and Western Surgical and Gynecological Society; formerly president of the Missouri State Medical Association and president of the Association of Surgeons of the Wabash Railroad; local surgeon at Carrollton, Mo., for the Burlington, Wabash and Santa Fe systems; lecturer on railroad surgery in the Medical Department of the University of Missouri; secretary of the local board of U. S. Pension Examining Surgeons, died suddenly at his home, January 21, from heart disease, aged 60.

Charles Everts Rider, M.D. University of Vermont, Burlington, 1863; formerly of Rochester, N. Y.; a member of the American Ophthalmological Society and American Otological Society; emeritus professor of ophthalmology in the Medical Department of Syracuse University; a surgeon during the Civil War; honorary member of the Rochester Pathological Society; formerly president of the Monroe County Medical Society; surgeon of the First Battalion, Light Artillery, N. G. S., N. Y., in 1864; died January 31, at his home in Chappaqua, N. Y., aged 69.

Aaron G. Dickson, M.D. Vanderbilt University, Nashville, 1889; of Paragould, Ark.; a member of the American Medical Association and International Association of Railway Surgeons; chief surgeon of the Paragould and Southeastern Railway; local surgeon of the St. Louis, Iron Mountain and Southern Railway, and the St. Louis and Southwestern Railway; founder of, and surgeon to, Paragould Sanitarium; grand medical examiner of the A. O. U. W. of Arkansas; died at his home, January 27, from pneumonia, aged 41.

Edward Lawrence Patterson, M.D. University of Georgia, Augusta, 1887; of Barnwell, S. C.; a member of the American Medical Association and of the Association of Surgeons of the Southern and the Atlantic Coast Line railroad; formerly president of the Aiken and Barnwell County Medical societies; a surgeon in the State Militia; died in St. Luke's Hospital, New York City, January 23, nine days after a surgical operation on the bladder, aged 49.

Constantine Markt, M.D. Eclectic Medical Institute, Cincinnati, 1858; brigade surgeon of the southern division of the Ohio Militia from 1858 to 1860; for eighteen years secretary of the Hamilton, Ohio, board of health and four years treasurer of the board of education; and trustee of the Lane Free Library; died at his home, January 28, from senile debility, aged 76.

John Leslie Howard, M.D. University of Louisville, 1889; a member of the American Medical Association; formerly professor of bacteriology and pathologic histology in his alma mater, and consulting neurologist to the Louisville City Hospital; proprietor of the Howard Sanitarium, West Baden, Ind.; died at his home, January 23, aged 43.

William Henry Frizell, M.D. New Orleans School of Medicine, 1860; assistant surgeon of the Twelfth Mississippi Infantry, C. S. A., during the Civil War; a practitioner of Poplar Creek, Miss., for 43 years; died at his home in Deasonville, Miss., Dec. 5, 1908, from chronic nephritis and spinal sclerosis, aged 70.

Hugh M. Clendenin, M.D. Southwestern Homeopathic Medical College, Louisville, 1900; professor of physiology and histology and lecturer on minor and surgical anatomy in his alma mater; secretary of the State Homeopathic Medical Society; died at his home in Louisville, January 25, from pneumonia, aged 29.

Cornelius H. Bartlett, M.D. Geneva (N. Y.) Medical College, 1849; for nearly half a century a practitioner of Cattaraugus Co., N. Y.; one of the founders and twice president of the county medical society; a curator of the Buffalo Medical College; died at his home in Olean, January 21, aged 83.

John James Mitchell, M.D. New York Medical College, New York City, 1857; of Newburgh, N. Y.; for several years professor of chemistry in the New York Homeopathic Medical College; city physician of Brooklyn in 1858; died suddenly in Newburgh, February 1, from heart disease, aged 74.

William E. Meredith, M.D. University of Tennessee, Nashville, 1893; a member of the American Medical Association and of the local board of U. S. pension examining surgeons; and one of the proprietors of an infirmary at Scottsville, Ky.; died at his home in that city, January 29, aged 39.

Charles Gregg Alderman, M.D. Jefferson Medical College, Philadelphia, 1905; assistant surgeon U. S. Navy; who had been a patient in the United States Naval Hospital, New Fort Lyon, Colo., on account of tuberculosis; died from that disease at Lawn, near Lebanon, Pa., January 29, aged 24.

D. L. Cheatham, M.D. University of Maryland, Baltimore, 1874; for six years mayor of Sandersville, Ga.; and for a long time a member of the State Board of Education; died suddenly from cerebral hemorrhage, at his home January 25, aged 60.

Francis Joseph Rogers, M.D. University of Pennsylvania, Philadelphia, 1873; health officer of Stamford, Conn.; for twenty years a member of the school board and councilman of that city; died at his home, January 27, from nephritis, aged 59.

Joseph R. Phillips, M.D. Cleveland Homeopathic Medical College, 1883; for ten years a member of the local board of health, and for two terms its president; died at his home in Erie, Pa., from cerebral hemorrhage, January 27, aged 58.

J. Harry Forbes, M.D. College of Physicians and Surgeons, Baltimore, 1903; of Pawtucket, R. I.; died at the Twin City Hospital in that city January 24, from a gunshot wound received from his own revolver in a fight, aged 30.

Edward Joseph Gilleran, L.R.C.S.; L.R.C.P. Edinburgh, 1892; surgeon in the British army during the Boer war; formerly of York City; died at his home in La Junta, Colo., January 23, from pulmonary tuberculosis, aged 48.

Leonard J. Harvey, M.D. Washington University, St. Louis, 1875; a member of the Iowa State Medical Society and a veteran of the Civil War; died at his home in Alta, January 26, from locomotor ataxia, aged 65.

Jacob Preston Miller, M.D. Medical College of Ohio, Cincinnati, 1878; a member of the Medical Association of the District of Columbia; died at his home in Washington, January 23, from nephritis, aged 56.

William M. Alexander, M.D. University of Louisville, 1887; formerly of Kinsley, Kan.; and local surgeon of the Santa Fe System at that place; died in Sterling, Kan., January 1, from pneumonia, aged 46.

Francis S. McNamara, M.D. Royal College of Physicians and Surgeons, Dublin, Ireland, 1848; for nearly half a century a practitioner of Milwaukee; died at his home in that city, January 22, aged 93.

L. F. Overton, M.D. Memphis (Tenn.) Hospital Medical College, 1894; died at his home in Cleveland, Texas, January 29, from an overdose of morphin, said to have been self-administered, aged about 40.

John M. Bash, M.D. Medical College of Indiana, Indianapolis, 1874; a member of the Indiana State Medical Association; died at his home in Warsaw, January 29, from cerebral hemorrhage, aged 60.

J. Harper Donald, M.D. Medical College of the State of South Carolina, Charleston, 1877; died suddenly at his home in Piedmont, S. C., January 23, from cerebral hemorrhage, aged 52.

Daniel James Hanlon, M.D. Boston University School of Medicine, 1891; of Hyde Park, Mass.; died suddenly from heart disease at the house of a patient, January 24, aged 41.

Harold M. Jacobsen, M.D. University of Kiel, Germany, 1881; of Chicago; died at the home of his son in Burlington, Iowa, January 29, from an overdose of morphin, aged 54.

Thomas Stewart, M.D. Western Reserve University, Cleveland, 1874; of Carlisle, Pa.; died in a sanitarium in Cleveland, from heart disease, January 28, aged 57.

Lomax S. Anderson, M.D. Missouri Medical College, St. Louis, 1893; of Moss Point, Miss.; died from heart disease at Managua, Nicaragua, January 25, aged 40.

James Douglas Burns, M.D. Trinity Medical College, Toronto, 1902; died at his home in Paradise Valley, Nev., May 27, 1908, from pneumonia, aged 37.

William S. Simmons, M.D. University of Louisville, 1856; died at his home in Adairville, Ky., Aug. 12, 1908, from cancer of the mouth, aged 74.

Samuel G. Scoven, M.D. University of Georgia, Augusta, 1876; of Macon; died at the home of his daughter in Herndon, Ga., January 19, aged 76.

Joseph Kern, M.D. University of Jena, Germany, 1888; died at his home in Cecil, Wis., in May, 1908, from pulmonary tuberculosis, aged 43.

James Robert Dryden, M.D. Toronto School of Medicine, 1879; died at his home in Guelph, Ont., Dec. 2, 1908, aged 53.

James John Hall, M.D. Tulane University, New Orleans, 1868; died at his home near Orrville, Ala., January 25.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT HOMEOPATHIC: New Haven, Mar. 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.

CONNECTICUT ECLECTIC: New Haven, Mar. 9. Sec., Dr. T. S. Hodge, Torrington.

CONNECTICUT REGULAR: New Haven, Mar. 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.

MAINE: Portland, Mar. 9-10. Dr. W. J. Maybury, Saco.

MASSACHUSETTS: Boston, Mar. 9-11. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Alabama 1908 Reports

Dr. W. H. Sanders, chairman of the Board of Medical Examiners of Alabama, reports the written examinations held at Montgomery, June 16-19 and July 7-10, 1908. The number of subjects examined in was 10; total number of questions asked, 65; percentage required to pass, 75.

At the examination held June 16-19, 1908, the total number of candidates examined was 102, of whom 50 passed, including 7 non-graduates and 52 failed, including 24 non-graduates. The following colleges were represented:

PASSED. College	Year Grad.	Per Cent.
University of Alabama, (1908) 75, 75, 75.1, 75.1, 75.4, 75.5, 75.9, 82.2, 83, 87.1.		
Birmingham Medical College, (1907) 78.2; (1908) 75, 75.1, 75.1, 76.4.		
Howard University, Washington	(1908)	75
Atlanta School of Medicine	(1908)	75.4, 77.3
Atlanta College of Physicians and Surgeons	(1908)	79.7
Chicago College of Medicine and Surgery	(1908)	75
Tulane University of Louisiana	(1907) 75; (1908)	75, 76.3
Maryland Medical College	(1908)	76.4
Detroit College of Medicine	(1886)	81.4
Cleveland University of Medicine and Surgery	(1897)	76.2
Jefferson Medical College	(1908)	75
University of Tennessee	(1908)	**75**, 75
Memphis Hospital Medical College	(1886) 75; (1908)	75
University of the South	(1907)	75
Meharry Medical College	(1908)	75.1
University of Nashville	(1908)	75.1, **75.1**, 75.1
Vanderbilt University, (1907) 75; (1908) 75.1, 75.1, 75.4, 80.8, 83.7.		
University of Virginia	(1907)	76.7

FAILED		
University of Alabama	(1908)	58.3, 59.1, 61.2, 61.7
Atlanta School of Medicine, (1902) 6.6; (1906) 62.7; (1907) 50.8; (1908) 52.7, 56.5.		
Mississippi Medical College	(1908)	42.4
Chattanooga Medical College	(1908)	31.6, 50.9, 57.8, 62
University of Nashville	(1908)	54.2, 55.8, 62.9, 63, 63.6
University of Tennessee	(1907) 63; (1908)	52.8, 58.4
Memphis Hospital Medical College	(1908)	62.8, 62.8
Meharry Medical College	(1908)	53.1, 59.6, 62.4
Gate City Medical College	(1908)	22

At the examination held July 7-10, 1908, the total number of candidates examined was 30, of whom 16 passed, including 2 non-graduates, and 14 failed, including 3 non-graduates. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Alabama	(1908)	75.6, 75.6, 75.8
Birmingham Medical College	(1908)	75, 75, 75, 75.5, 77.7
Denver and Gross College of Medicine	(1904)	75
University of Louisville	(1908)	88.1
Kentucky School of Medicine	(1908)	75.1
Johns Hopkins Medical School	(1908)	75.9
Memphis Hospital Medical College	(1908)	**75.1**, 76.2

FAILED		
University of Alabama	(1898)	69.8
Atlanta School of Medicine	(1908)	64.2
Hahnemann Medical College, Chicago	(1907)	70.4
Kentucky School of Medicine	(1907)	47.7
Mississippi Medical College	(1908)	**50.7**, 67.1
Leonard School of Medicine	(1905)	60.7
Meharry Medical College	(1908)	47.1
Vanderbilt University	(1908)	69.7
Memphis Hospital Medical College	(1908)	48.8
University of the South	(1908)	36.7

Virginia December Report

Dr. R. S. Martin, secretary of the Medical Examining Board of Virginia, reports the written and oral examination held at Lynchburg, Dec. 15-17, 1908. The number of subjects examined in was 9; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 49, of whom 28 passed and 21 failed. Seven reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED. College	Year Grad.	Per Cent.
George Washington University. (1906) 82; (1907) 78; (1908)		81
Georgetown University	(1907)	76
Johns Hopkins University Medical School	(1906)*	
University of Maryland	(1908)	75
Baltimore University	(1898)*	
Tulane University of Louisiana	(1898)*	
Med.-Chirur. Coll. of Christ Institution, Baltimore.	(1904)	76
Hospital College of Medicine, Louisville	(1904)	75
Leonard School of Medicine	(1908)* (1908)	76
Medical College of South Carolina	(1902)*	
University of the South	(1907) 75; (1908)	76
Tennessee Medical College	(1907) 75; (1908)	77
Meharry Medical College	(1905) 75; (1908)	75
Medical College of Virginia	(1906) 76; (1908)	75, 75
University of Virginia	(1907) 75, 75; (1908)	76, 79
University College of Medicine, Richmond.	(1896)* (1908)	80

FAILED		
George Washington University	(1908)	73
Northwestern University Medical School	(1908)	70
Kentucky School of Medicine.	(1887)* (1906) 66; (1908)	48
Hospital College of Medicine, Louisville	(1908)	71
Baltimore Medical College	(1900) * (1907)	69, 71
College of Physicians and Surgeons, Baltimore	(1901)*	
College of Physicians and Surgeons, Boston	(1907)	61
Leonard School of Medicine	(1906) 46, 50; (1908)	59, 70, 74
University of the South	(1903) 73; (1907) 71; (1908)	66
University of Tennessee	(1891)*	
University of Virginia	(1908)	67

LICENSED THROUGH RECIPROCITY College	Year Grad.	Reciprocity with
George Washington University	(1908)	Dist. Colum.
Illinois Medical College	(1904)	Kentucky
University of Maryland	(1908)	Maryland
Atlantic Medical College	(1907)	Maryland
University of Michigan	(1907)	Michigan
New York Homeopathic Medical College	(1901)	Kentucky
University of Virginia	(1907)	Maryland

* Took oral examinations.

Book Notices

QUACKS AND GRAFTERS. By Ex-Osteopath. Cloth. Pp. 126. Price, $1.25. Cincinnati, Ohio: Cincinnati Medical Book Co.

This little book is written by one who took up for a few years the "practice" of "osteopathy," but whose intelligence and honesty caused him to relinquish it after he was fully conversant with the pretense and graft connected therewith. He then returned to the more congenial—and reputable—profession of teaching. The book is in two parts; the first deals with conditions in and out of the medical profession that have made it possible for the followers of Still to fool the public; the second treats of "osteopathy" itself and, without acrimony, exposes this quasi-scientific system of massage and throws light on the methods employed by the American Osteopathic Association to advertise and "boost" the "system." The author's attitude toward the medical profession is on the whole fair and without bias. That, as a layman, he has drawn some wrong conclusions from his observation of evils that admittedly exist in the profession of medicine is not to be wondered at, but most of his criticisms are eminently just. The book, whether read by layman or physician, will tend to increase the respect of each for the medical profession and to lead to a fuller appreciation of the inherent worthlessness of various irregular "systems" of healing that have become so common.

THE RED CITY. By S. Weir Mitchell, M.D., LL.D. Paper. Pp. 421, with illustrations. Price, $1.50. New York: The Century Co., 1908.

Nearly all Dr. Mitchell's novels bear the impress of his scientific work in the shape of characterizations of various forms of mental malady. "The Red City" differs somewhat from its predecessors in that its psychologic studies, while keen and penetrating, involve no pathologic element. Entering on an important field of medical and national history, Dr. Mitchell has revived with interesting fidelity the yellow fever epidemic of 1793 in Philadelphia. It is a strongly drawn picture in which, on a background of mystery and terror, stand out in bold relief many touching and heroic examples of courage, faithfulness and love of kind. There are graphic sketches of Rush and some of his less famous colleagues—among them the eccentric Chovet—of Stephen Girard, and of the devoted Quakers, some of whom lost their lives in that battle with pestilence. The story never before has been told with such truth and vigor, and physicians will find this chapter of absorbing interest.

Not less attractive are the historic elements in the book. During the period described the constitution of the United States is still on trial; Jefferson, Hamilton and Randolph, the French and British Ministers, Jacobins, émigré nobles, well chosen representatives of the various classes, parties, factions and opinions in the state, move and live on these pages. We catch a sad glimpse of the aging Washington, a martyr of duty, preserving his sanity and equipoise despite harassmen from contentious passions, and relaxing, as only the strong man can, in the intimacy of the household circle. The famous incident of "Dispatch No. 10," which involved the United States in serious dispute with France and caused the downfall of Edmund Randolph, Secretary of State, is skilfully utilized in the interesting development of the fortunes of a young French vicomté, whose adventures in love, commerce and diplomacy we shall not here tell, lest we destroy the pleasure of the reader in following the narrative.

One is tempted to ask whether the figure of Herr Schmidt, a German of distinction dwelling in that charming Quaker household which is the stage center, represents an historic personage or is a child—no less vital—of the author's brain. "The pearl," as Herr Schmidt affectionately calls the daughter of the house, is perhaps the most charming feminine character that Dr. Mitchell has yet drawn, and moves in interesting contrast by the side of the large figure and striking personality of Miss Gainor Wynne, whom we knew and loved in "Hugh Wynne." But though "The Red City," in its realistic telling of the life of a past day, must needs recount the strife of parties, the threats of war, the dread visitation of pestilence, it does not deal with somber themes only. It is like a huge canvas whereon both cloud and sun find place; the social life of the great merchants is well depicted and in the illuminated spaces shine the colors of exquisite fancy, of rare wit and of delicious humor.

Dr. Mitchell, in this book, has added not alone to the obligation which the public owes him, but also to the many claims which he has on the regard of his medical brothers. He has by this and his other writings made it easier for his colleagues who may find attraction in fields remote from their profession, whether in literature, in music or in the fine arts; for he has shown that to excel in such fields need not, and does not, lessen the confidence of fellow-physicians or of the laity in one's competence as a diagnostician or practitioner. It would be interesting to have a methodical criticism of Dr. Mitchell's descriptions of disease in his other books; for his clinical pictures of homicidal melancholia, of hysteria and its social influence, of senile degeneration, etc., are drawn with the skill of vast experience and the artistic reserve of a master of two arts—fiction and medicine. We commend "The Red City" for evening company when the day's work is over and when it is pleasant to forget a while the patient and the sick-room.

UNSERE MITTELSCHUELER ZU HAUSE. Schulhygienische Studie Nach Erhebungen an Münchener Mittelschulen, veranstaltet durch die Schulkommission des Aerzlichen Vereins München. Von Eugen Dörnberger, pr. Arzt in München, und Karl Grassmann, pr. Arzt in München. Paper. Pp. 208. Price, 5 marks. München: J. F. Lehmanns, Verlag, 1908.

This volume, the outcome of an investigation instituted by the School Commitee of the Munich Medical Society, takes up in detail the various influences which bear on the pupils of the gymnasia and female seminaries of Munich out of school hours. The first part, by Grassmann, is devoted to the consideration of the classical gymnasia, five of which were investigated. The time for sleep is one of the most important matters into which inquiry was made. The conclusion is that the hours for sleep are sufficient on the average, but that no considerable increase in the demands of the schools could be made without encroaching unduly on the hours for sleep. School work at home is found to be far in excess of that provided by the educational regulations. This increases as the pupil advances in his classes and there is found to be a dangerous tendency, either to push the work into the evening so as to leave insufficient time for sleep or to use the afternoon so as to lessen the opportunities for exercise and recreation.

The question of physical culture gives rise to an interesting discussion. It is generally admitted that more attention should be given to the physical development of youth in the secondary schools, and it is proposed to put this under the care of medical men from the beginning to the end of the course. The first important question is whether time for this purpose can be afforded without lowering the ideal of intellectual attainment which is imposed on the schools by the increasing complexity of our civilization. If this is to be done the amount of home work must be correspondingly lessened to avoid encroaching on the hours for sleep. That such a diminution of home work is possible has been asserted by a number of educators. In this way time for physical exercise can be afforded by leaving the whole or the greater part of the afternoon free.

The second question is in regard to the placing of the control of the physical culture of the pupils. To put this responsibility wholly on the school might provide for a more economical and methodical use of time, but Grassmann thinks that this advantage would be more than overbalanced by the corresponding loss of home influence. The home, in his estimation, is the proper agency for the building of character, and harm would be done by giving the school too exclusive control of the development of youth and thereby lessening the opportunities for the exercise of wholesome moral influence by the home.

The second part by Dr. Dörnberger deals with girls' schools and the technical schools for boys and follows much the same lines. The hours of sleep among the girls are close to the minimum and the sleep is often disturbed in consequence of prolongation of study into the night. About one-third of the required study is done in the evening. The greater ambition of the girls—and often of the parents—leads to a sacrifice of health in many cases.

There is too little attention given to the proper care and training of the body by exercise and gymnastics. Even walking is neglected. Girls are too apt to substitute fancy work and other occupations of insufficient value as means of physical culture for the more active exercises. Too often, especially in business schools, the leisure time is used in practice which affords no relaxation to the already overused faculties.

The proposition to put all instruction in the forenoon, so as to leave the afternoon free, is discussed, and it is pointed out that if this is done home work must be reduced so as to leave the greater part of this time for recreation.

The problems discussed demand the attention of parents, teachers and physicians, who must realize that well-equipped and successful men and women must be built on mentally and physically healthy boys and girls and that, as Dörnberger says, "the future of a nation is the flower of its youth." Those with whom these questions rest for solution will find in the book valuable facts and deductions.

DIE MECHANISCHE UND PSYCHISCHE BEHANDLUNG DER TUBERKULÖSEN BESONDERS IN HEILSTÄTTEN. (Vorlesungen über Tuberkulose, herausgegeben von Georg Liebe, Bd. I.) Von Georg Liebe. Paper. Pp. 267. Price, 5 marks. München: J. F. Lehmanns Verlag, 1909.

This monograph consists of fourteen lectures covering the ground of tuberculin treatment, breathing exercises, after-treatment, and the psychic management of tuberculous patients. It aims to give practitioners a clear account and directions for the execution of those measures which distinguish sanatorium treatment from that which the patient is likely to receive at home, unless under the especial supervision of a most painstaking physician. The book also considers many of the social questions which are raised by the occurrence of tuberculosis among the masses. To the sanatorium physician and also to the practitioner who wishes to do the best for the patient who remains at home, these lectures, representing the accumulated experience of the sanatoria, ought to be of special value. They are as yet accessible only to those who read German.

EINE NEUE HYPOTHESE UEBER URSACHEN UND WESEN BÖSARTIGER GESCHWÜLSTE. Von Otto Aichel, a.o. Professor der Gynäkologie an der Universität Santiago. Paper. Pp. 36. Price, 1.50 marks. München: J. F. Lehmanns Verlag, 1908.

This pamphlet reviews the theories advanced to account for the development of malignant growths and decides that none

of them is sufficient. Aichel devoted himself to the championship of the hypothesis that the cancer cell or sarcoma cell is the progeny of a sexual conjugation of the leucocytes with the fixed tissue cells.

JOHN MONTCALM, HERETIC. By Frederick A. Rupp, M.D. Cloth. Pp. 272, with illustrations. Price, $1. Reading, Pa.: I. M. Beaver, 1908.

Dr. Rupp has written a novel with a typhoid epidemic as part of its medical flavor, and with a controversy over religion as its main motive. The scene is laid in the Maryland hills, and the local color is much in evidence.

KLINIK DER BRONCHOSKOPIE. Von Hermann von Schrotter, Dr. Phil. et Med. in Wien. Paper. Pp. 688, with illustrations. Price, 20 marks. Jena: Verlag von Gustav Fischer, 1906.

This is a comprehensive work, giving the result of Schrotter's unusually extensive experience. The history of cases (often given in detail, including the clinical picture as it changes from day to day) forms an important part of this work. A critical discussion of the literature in this field is included, and the pathology of the mediastinum and of the neighboring organs is frequently discussed; so also are physiologic problems. The work on the whole forms a scholarly contribution to the literature in the field of bronchoscopy.

Miscellany

The Value of Hospital Ships in the Navy

On the program of the regular monthly meeting of the Manila Medical Society for December, appears an abstract of a paper by Dr. Charles F. Stokes, Surgeon, U. S. Navy, on "Some Features of Hospital Ships." In view of the widespread publicity and discussion which followed Dr. Stokes' appointment to the command of the U. S. Hospital Ship *Relief*, this paper outlining the work accomplished by hospital ships in the Navy is of special interest. The abstract is in part as follows:

"Hospital ships are positively needed even in time of peace. Repair ships, refrigerating ships, supply ships, colliers, etc., are provided in order to make the fleet self-sustaining from a material viewpoint as far as possible. Hospital ships are equally essential. The hospital ship accompanying the fleet allows an increased number of effectives to be returned to their ships for duty immediately after treatment.

"On joining the battle-ship fleet at Magdalena Bay, the *Relief* received over 160 patients, an average of 10 per vessel. There were over twenty cases of tuberculosis and fully half as many suspects. On the other vessels these patients were not only an encumbrance, but an actual menace to the rest of the fleet. Twenty-four patients required operative treatment. Twenty-two were suffering from mental disorders. The average number of patients admitted to the *Relief* while with the fleet was 10 per day. At Honolulu 59 cases of contagious diseases were sent on board the *Relief* from the vessels of the fleet, thus enabling the fleet to obtain pratique and avoid delay in quarantine. At Auckland and Sydney a number of patients who otherwise would have been left at hospitals on shore were taken on the *Relief* and returned to their ships at Manila. Several deaths occurring in the fleet, the bodies, instead of being buried at sea, were sent on board the *Relief*, embalmed and brought to Manila in metal caskets to be returned to friends and relatives in the States. The laboratories, *x*-ray outfit, dental equipment and medical and surgical supplies of the *Relief* have been of great help to the medical officers of the fleet.

"A hospital ship should be with a fleet in time of peace in order that her status as a non-combatant may be fully demonstrated, and in order to impress on the minds of the officers and men the fact that the articles of the Geneva Convention must be observed. The salient features of a hospital ship are stability, speed and coal endurance. She should have boats sufficient to transport patients entirely independent of other ships.

"The *Relief* has special machinery for hoisting injured and sick men over the side, as well as boats especially equipped with stretchers, etc. On the uppermost deck a thoroughly equipped operating room will be fitted up. Infectious wards are placed well aft by themselves. There are also wards for isolation and treatment of tuberculosis, as well as sun and air spaces and special mess rooms for convalescents. The lower decks contain medical and surgical wards, laboratories, dispensary, quarters for medical officers and hospital corps, store rooms, steam laundry and cold storage rooms. The navigation and engineer forces are berthed forward, separate from the hospital portion of the ship. Hospital ships have demonstrated their usefulness and should be and will be commanded by medical officers."

This statement, from the medical officer in command of the *Relief*, amply demonstrates the good judgment shown by President Roosevelt, the Secretary of the Navy, and Surgeon-General Rixey in placing the ship under command of a naval surgeon. As is usually the case, Dr. Stokes' experience and testimony will doubtless be overlooked by the newspaper cartoonists, paragraphers and joke-writers who made such liberal use of the incident at the time. It is apparently impossible to eradicate from the popular mind an idea which has once been firmly established, especially when it has been implanted through the medium of a joke, but for the sake of those who care to know, a few facts on the status of hospital ships may be of interest.

Under the agreement of the Geneva and The Hague Conventions, hospital ships are non-combatant and neutral and are therefore exempt from attack and entitled to protection. Hospital ships of the navies of England, Germany, France and Japan are manned by crews recruited from the merchant marine and captained by civilian masters, but commanded by naval surgeons who are therefore the responsible naval officers in charge. Army hospital ships, both in the countries above mentioned and in the United States, are manned and captained in the same way and are commanded by army surgeons. The hospital ship is simply a floating hospital. There is no more reason why a non-medical officer should be in command of a hospital on shipboard than on land. The surgeon in command of a hospital ship, either in the Army or Navy, has nothing whatever to do with sailing the vessel, but is simply the responsible naval officer in charge, while the master of the vessel, a civilian captain of the merchant marine, is responsible for the navigation of the vessel and for the manner in which it is handled, when not in port.

The protracted discussion which greeted the order of Surgeon-General Rixey was mainly participated in by those who did not discriminate between the commander and the master of the vessel. Time has proved the wisdom of the arrangement and value of hospital ships. They are necessary for the comfort of the men and the efficiency of the service whether in peace or war, and should be developed and encouraged in every possible way.

Segregation of Urine on New Principle.—Prof. R. Kutner has found time in his duties as secretary and editor for the central German postgraduate work, to devise a method of segregating the urine and applying local treatment to the bladder by suction. The cystoscope he uses has two passages: the outer one is made in such a way that it can be applied at any point of the bladder wall, especially over the mouth of the ureter and aspiration can be induced with a simple air pump. The other smaller passage, inside the first, allows the escape of the urine accumulating in response to the suction. By suction from the air pump it is possible, he says, to aspirate out from the mouth of the ureter urine from the connecting kidney as effectually as by catheterization of the ureter, while it avoids the necessity for introduction of the catheter and thus averts possibility of infection from this source. By adapting the aspirating passage to any point in the bladder wall it is possible further to apply the principles of Bier's suction hyperemia to a bladder lesion. Another advantage is that it is possible to apply a medicinal solution exactly at the point where needed. In his communication in the *Zeitschrift für aerztliche Fortbildung*, September 1, he discusses the drawbacks of other methods and describes his suction cystoscope with its two passages at the tip terminating in a funnel-shaped enlargement, the outer aspirating passage enclosing the inner outflow tube.

The Year's Progress in Epilepsy.—During the past year separate provision for epileptics has been made in seven states. In other states there are private or semi-private charities, so that in all about 5,000 epileptics are cared for in institutions specially designed for them. There are, of course, many epileptics treated in institutions for the insane and for the feeble-minded. New York State has recently established a second institution primarily for these cases, and Ohio is considering one for the northern part of the state to relieve the present institution at Gallipolis. Illinois is making a strong effort to obtain a sufficient appropriation from her legislature this winter. These points were brought out at the eighth annual meeting of the National Association for the Study of Epilepsy, Indianapolis, November 10. The separate care of the epileptic was uniformly favored, as was also a colony with large acreage, but the exact scope and limitations of the institution and the segregation of various types of epileptics were differently viewed. It was agreed that it is unfortunate for sane epileptics to know of and perhaps see near by, the buildings for the insane epileptic and for the low-grade custodial cases, for he realizes that he will in all probability pass through these stages if he lives long enough. This undoubtedly has its depressing effect. On the other hand, a building site can be so chosen as to make these divisions easily accessible to, and yet almost invisible from each other. Such an arrangement is the most economical, especially in view of the constant changes in the mental condition of the epileptic. The type of building advocated varies, of course, according to the class of case. All must be constructed with reference to the nature of the disease: all sources of danger must be seen to; corners must be rounded; hot pipes and fires properly protected; stairs made wide and with frequent landings; doors should usually open out rather than into rooms, so that a patient falling against them will not hold them closed. For the most desirable class of colonists, houses accommodating from 15 to 30 are best. A few single rooms may be included, but on the whole, are not so desirable as small dormitories with three, four or five beds. The occupation of the colonists is a very important problem, and is one of the fundamental objects of colony care. The epileptic is incapacitated by the nature of his disease from mingling on terms of equality with normal people, and the object of the institution should be to provide for him such surroundings as will enable him to do the maximum work and get the maximum enjoyment out of life. A large farm is desirable and patients can be expected to assist in the working of it, under wise supervision, of course.

Atoxyl and Other Remedies in Sleeping Sickness.—In an introduction to the *Quarterly Report of the Progress of Segregation Camps and the Medical Treatment of Sleeping Sickness in Uganda* (Sleeping Sickness Bureau, London, 1908), A. D. P. Hodges, senior medical officer, says: "There is no doubt that the hopes expressed by Professor Koch and others that atoxyl would prove a general and permanent cure for cases of sleeping sickness must now be abandoned." He states that the remedy, however, is capable of rendering very great service and sums up the situation as follows: 1. In most cases there is a temporary improvement from its use. 2. There is probably in most cases prolongation of life. 3. In all patients who come in contact with the tsetse fly there is diminution of the susceptibility to infection. 4. There are still considerable numbers of patients in whom treatment was begun in the early stages who are still alive and some of these may be eventually cured. 5. The results from atoxyl and mercury at present are promising and may prove to be more lasting than those from atoxyl alone. 6. Experience has been gained in the use of the drug, the supply is now constant, and it is to be hoped that the quality will improve yet further. 7. We have at present no treatment, apart from atoxyl and its allies, which has shown any sign whatever of successful results. Some reports from the camps indicate disappointment with the combination of mercury and atoxyl; but experience with another brand of sodium amino-phenyl arsenate seems to show equally efficient action without toxicity and at about one-third the price (*Quarterly Report*, p. 28). Recent work on the treatment of trypanosomiasis is reviewed in the *Bulletin of the Sleeping Sickness Bureau* (December, 1908). The work of Ehrlich is described and the hope is expressed that this experimenter will find a remedy as effective in man as arsenophenylglycin is in mice. E. Friedberger recommends the use of a mixture of atoxyl and thioglycollic acid (sulphydracetic acid) which he has found more effective than atoxyl alone when injected into mice. Plimmer and Bateman found that metallic antimony suspended in a mixture of palmitin and antiseptics (Lambkin's cream) was more efficient than any of its salts. There are some favorable reports from the use of other remedies, such as orpiment, Loeffler's solution of arsenic, and tartar emetic, but none appear to be conclusive. A new proprietary preparation, said to be the methyl homologue of sodium aminophenylarsenate has been tried, but produced poisonous effects. Reports from the segregation camps indicate that the good results of the atoxyl treatment are more manifest after two months' treatment than after three months, and would seem to show that it is a good plan to resort to a new remedy as soon as the first one tried has begun to lose its efficacy.

Hepatozoon Perniciosum; a Protozoon Parasite Pathogenic for White Rats.—W. W. Miller, in *Hygienic Laboratory Bulletin*, 46, June, 1908, describes the life history of a hemogregarine which is the only species of that class occurring in mammals which has been observed outside of India and Northern Africa, both tropical regions. It is the only species so far described which exhibits pathogenic properties. It infects white rats, causing sickness and eventually death. Experimentally, Miller has shown that wild rats are susceptible to infection, but distinct pathogenic effects have not been conclusively shown. The most decided pathogenic effect seems to be exerted on young animals. The life cycle of the parasites has been worked out, and it is found that the infection is transmitted from one animal to another by the agency of an intermediate host, the gamasid mite (*Lelaps echidninus*), which frequently infests both white and wild rats. The parasite taken into the digestive canal of the mite undergoes sexual development and appears to be taken with the mite into the digestive tract of the rat in which the encysted parasites are set free, penetrate the intestinal wall and after multiplication become encysted in the liver. Some escape into the general circulation. The merozoites when fully developed are set free in the liver capillaries as vermicules; the majority are speedily taken up by the phagocytic large lymphocytes and become encysted; a few may remain as vermicules. The parasites in the blood of the rat are again taken into the digestive canal of the mite and the cycle is repeated. That rats can be infected by feeding on infected mites has been shown experimentally, and this is probably the only way in which the infection is transmitted. Infection through the alimentary canal from an intermediary host has not been previously described from a protozoon blood parasite. The investigation is of interest, as it may suggest a means of destroying rats by infecting them with this disease.

Mosquitoes of the Philippine Islands.—An important study of the distribution of mosquitoes in the Philippine Islands with reference especially to the transmission of disease has been made by Clara S. Ludlow, M.Sc., under government auspices, and published in a monograph entitled "The Mosquitoes of the Philippine Islands" (Washington, D. C., 1908). It was found that a large number of species present in the islands had not been previously described; twenty-nine new species are here recorded, of which eight belong to the anophelinæ. The relation of this group to malaria seems to be evident from the occurrence of malaria in the localities where members of the anopheles group are most prevalent; but no pathologic investigations have been made to prove that these species in the Philippines are the carriers of the malaria parasite. It is a striking fact that the number of anopheles mosquitoes has diminished in the last few years in consequence of the prophylactic work undertaken by the sanitary authorities, including the draining of low lands and also the very general administration of quinin as a prophylactic

measure. Four of the anopheles species present in the islands have been proved to be the host of malarial parasites in Africa and India. *Stegomyia calopus*, the proved host of yellow fever, is found in the Philippines, but yellow fever so far has never been present. Two other species of culicinæ are hosts of filariæ, but how far they are active in the Philippines is not shown by this investigation. The fact that the *Stegomyia* is present in the islands is of interest in connection with the presence of yellow fever in other countries with which the Philippines are in more frequent communication than formerly. The introduction of yellow fever into the Philippines would probably be followed by an epidemic unless great precautions were taken.

Economic Dietetics.—Under this title, Ira S. Wile, in *Charities and the Commons*, Jan. 9, 1909, calls attention to a neglected aspect of the diet question. Many persons of limited means suffer loss both in money and nutrition because they do not understand the relative cost of equal amounts of nutriment in the various articles of diet as purchased in the market and as prepared for the table. The average housekeeper is ignorant and extravagant. With a proper appreciation of food values, she might be able to save money, so that her children could be better clothed and housed and equally well fed. Careful instruction should be given both girls and boys along this line. Philanthropic workers should see to it that food-supplies are properly used and when aid is given in providing food, the kind and amount should be specified. Some of the menus recommended to the poor are beyond their means. As Dr. Wile says: "It is not a question of teaching people how to live when they have sufficient or abundant means. The problem, in part, is to teach people to live within their paltry incomes—to live well and to remain strong and healthy." The domestic science courses in the public schools are faulty in not placing the most needed forms of cooking in the front rank. "When a child is shown how to perfect French fried potatoes before learning how to prepare oatmeal, the course is not doing its full social duty to the child or to the community." Better information and education in this matter is urgently needed and the physician is the one to whom the community naturally looks to furnish it.

Medicolegal

Practice of Medicine Prior to 1864 or to 1884 Does Not Entitle to Certificate

The Court of Appeals of Kentucky says that the case of Webster vs. State Board of Health was instituted for the purpose of obtaining a writ of mandamus requiring the board to issue to the plaintiff a certificate authorizing him to practice medicine in that state. The principal allegation in the petition on which the right to the certificate was based was that for several years prior to Feb. 23, 1864, he was reputably and honorably engaged in the practice of medicine in the State of Kentucky.

The plaintiff at the time he filed his petition was evidently under the impression that Section 2613 of the Kentucky Statutes of 1903 was still in force, and overlooked the fact that the act of 1893, relative to empiricism, which forms a part of Chapter 85 of the Kentucky Statutes of 1903, has been repealed by an act on the same subject, which was approved March 18, 1904, and is found in Acts of 1904, Chapter 34.

By Acts of 1904, Chapter 34, no person is permitted to practice medicine in Kentucky unless he shall first stand a satisfactory examination by the board in the branches of medicine as taught in reputable medical colleges. The mere fact that the plaintiff practiced his profession prior to 1864 did not entitle him to a certificate. It would only entitle him to an examination, and not to a certificate, unless his examination showed that he was qualified in the opinion of the board to practice his profession.

Moreover, the petition alleged simply that the plaintiff had for several years prior to 1864 practiced medicine in Kentucky, but it did not allege that he had continuously practiced medicine since that time. Over forty years have passed since 1864, and it was not alleged that during any of that time the plaintiff had practiced his profession. If we take the mere letter of the statute, the allegation would seemingly be sufficient; but the legislature did not mean that any person who was practicing the profession of medicine prior to 1864, as in the act of 1893, or prior to 1884, as in the present statute, should be entitled to a certificate if he had not been continuously practicing since that time.

The object of the statute is to elevate the practice of medicine, and to raise a high standard of proficiency which the applicant must fully measure up to in order to secure a certificate authorizing him to practice his profession. One who had simply practiced medicine prior to 1864, but had not practiced it since, or prior to 1884, but had not practiced it since, would be in no wise qualified to practice medicine in 1907.

Construing the act, then, according to its spirit rather than its letter, in order to authorize the plaintiff to stand an examination and receive a certificate under the present law, he must either receive a diploma from a reputable medical college legally chartered under the laws of Kentucky or of some other state in this Union, or, in the absence of a diploma, furnish satisfactory evidence that he was reputably and honorably engaged in the practice of medicine in Kentucky continuously from Feb. 23, 1884, until his application was made.

The statute under consideration is a wise and beneficent exercise of the police power of the commonwealth, enacted for the purpose of protecting the people of the state from imposition by empirics and quacks. It does not seek to prevent any honorable man or woman from practicing the profession of medicine. It only requires that they shall show, by a satisfactory examination before the State Board of Health, that they are qualified.

There was no suggestion in the plaintiff's petition that the board was acting arbitrarily, or that it unlawfully sought to prevent him from obtaining a certificate; and the court is not entitled, in the absence of such an allegation, to indulge in any presumption against its fairness. It is the high duty of the board to protect the health and safety of the public by requiring every applicant for a certificate to practice medicine to first show his qualifications.

It is not necessary to demonstrate the constitutionality of the act. Such legislation has been uniformly upheld by this court and other courts throughout the land.

Non-Mailable Information, Etc., Pertaining to Abortions

The United States District Court, Southern District of California, holds, in the case of United States vs. Somers, that that part of the federal statute (Section 3893 of the Revised Statutes of the United States) which prohibits the mailing of any letter giving information concerning articles or things designed or intended to procure abortion is not limited to physical substances capable of transmission through the mail, but includes treatments and operations, indeed, everything whether material or ideal, designed or intended for the purpose above stated.

The court says that while the letter charged to have been written by the defendant stated that he knew of no medicine that would bring about an abortion, yet, when read in connection with the letter of inquiry to which it was a reply, it did in effect inform the addressee that the defendant had at his command in Los Angeles some sort of means for the procuring of an abortion, although the means were not specified. It might be fairly conceded, however, that the means referred to were, as contended by the defendant's counsel at the oral argument, and using the language of the letter of inquiry, "some kind of operation."

The language of the section is: "Every obscene book . . . and every article or thing designed or intended for the . . . procuring of abortion, and every . . . letter . . . giving information directly or indirectly where

or how or by whom or by what means any of the hereinbefore mentioned matters, articles or things may be obtained . . . are hereby declared to be non-mailable matter," etc.

Manifestly an "operation" is a "thing" within the accepted definition of the two words, and there is no peculiar phraseology in the statute which restricts the ordinary signification of the word "things." The participle of the verb phrase, "may be obtained," is not limited in its use to the acquisition of material substances, but is coextensive with the word "things," and can be suitably used to designate the attainment of whatever one may desire.

So the court is satisfied that an "operation" is a "thing" within the letter, as it admittedly is within the spirit, of the statute.

Unlawful Use of Titles by "Osteopathic and Magnetic" Physicians and "Drugless" Doctors

The Supreme Court of Washington, in the case of State vs. Pollman, where it affirms a conviction of the defendant of practicing medicine without a license, says that the defendant had maintained an office and place of business in front of and on the doors of which he had caused his name to be lettered, with the words, "Physician," and "Dr.," and had otherwise advertised a title which tended to show that he was a lawful practitioner of medicine and surgery under the laws of the State of Washington, when, in fact, he was not such a practitioner. It is competent for the legislature to prohibit acts of this kind. Its purpose in so doing is to protect the people against deception.

The Washington statute provides that "Any person shall be deemed as practicing within the meaning of this act who shall have and maintain an office or place of business with his or her name and the words physician or surgeon, 'Doctor,' 'M.D.' or 'M.B.' in public view, or shall assume or advertise the title of doctor or any title which shall show or shall tend to show that the person assuming or advertising the same is a lawful practitioner of any of the branches of medicine or surgery in such a manner as to convey the impression that he or she is a practitioner of medicine or surgery under the laws of this state."

The titles which the statute sets out are those usually associated with practitioners of the regular schools who treat diseases by the administration of remedies in the nature of drugs and their compounds, rather than with practitioners who treat solely by appeals to Divinity, the occult, or by "manually manipulating the limbs, muscles, nerves, and by flexing and manually manipulating the joints of the body," and it is practitioners of the regular schools rather than the others that the ill and infirm seeking relief usually expect to find when entering a room whose door has lettered on it the name of a person preceded by the title, "Dr.," or followed by the letters "M.D." or "Physician and Surgeon."

The defendant, it was true, prefixed to the word, "Physician" the words "osteopathic and magnetic" in one instance, and the word "drugless" in another; but these did not make the use of the word lawful. The statute is a prohibition against any use of the word in connection with announcements of the profession or business of a person other than practitioners of medicine and surgery who have passed the examination prescribed in the statute and received the license therein provided for, and this prohibition is not evaded by the use of qualifying adjectives prefixed to the prohibited words. The statute also uses the word "doctor," instead of the more common abbreviation "Dr.," but it is equally a prohibition against the use of either. Its purpose being to prevent deception, the courts will give to it that meaning which will most effectually accomplish that purpose.

It was said, however, that the part of the statute here in consideration could not lawfully be enacted under an act entitled, "An act to regulate the practice of medicine and surgery in the State of Washington," etc., but the court thinks the title sufficiently broad. To provide who may lawfully call themselves "Doctors," "Physicians," or "Surgeons" is clearly within the title of an act entitled, "An act to regulate the practice of medicine and surgery."

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

January 30

1 The Ethics of Our Profession. A. Vander Veer, Albany, N. Y.
2 *Serodiagnosis of Syphilis, and Its Clinical Value. W. J. Butler, Chicago.
3 Pathology and Treatment of Chronic Gonorrhea. A. A. Uhle and W. H. Mackinney, Philadelphia.
4 Clinical Gonorrhea in the Male (continued). M. Huhner, New York.
5 Preventive and Abortive Treatment of Mastolditis. W. S. Bryant, New York.
6 *Repair of Fractures. C. O. Files, Portland, Ore.
7 Methodical Occlusion of the Eyes in the Study of Their Etiologic Significance in Disturbances of the Nervous System. N. B. Jenkins, New York.

2. **Serodiagnosis of Syphilis.**—Butler discusses the theory on which serodiagnosis is based, and describes the substances employed in the test and the methods of their preparation, with the mode of performing the test. He discusses the practical results of the reaction, which have been particularly illuminating in diseases of the central nervous system, especially general paresis and tabes. In visceral syphilis, also, it is very useful, especially when we remember that next to tuberculosis, syphilis is the most important cause of death in man. He further discusses hereditary syphilis, and the influence of antisyphilitic treatment on the reaction, and says that the significance of the reaction with regard to therapeutics may be summed up as follows: The reaction when positive is an indication of activity of syphilis, and it therefore follows that a positive reaction is an indication for antisyphilitic therapy.

6. **Repair of Fractures.**—Files points out that in fractures, after the coaptation of the broken ends of the bones and their fixation, the ordinary inflammatory changes are going on The extravasation of the blood into the tissues, etc., causes a stasis of repair for a week or ten days or more, during which absorption is going on more or less rapidly. He points out that in severe sprains, e. g., of the ankle, the early and frequent use of electricity and massage practically prevents swelling and greatly accelerates recovery, by preventing the engorgement of the tissues and the stasis of blood, so that the work of repair goes on faster. He holds that the conditions are analogous and that similar results will take place in the case of fractures.

Boston Medical and Surgical Journal

January 28

8 *Some of the Vagaries of the Obstetrician from the Standpoint of the Pediatrician. J. L. Morse, Boston.
9 What Type of Operation is Best Adapted for the Relief of Disease of the Frontal Sinus? E. A. Crockett, Boston.
10 *Laryngotomy and Laryngectomy for Cancer. D. C. Greene, Boston.
11 Care of Fractures in General Practice. G. H. Francis, Brookline, Mass.
12 Exhibit of X-Ray Plates of Fractures. C. C. Simmons, Boston.
13 *The Cold Storage of Poultry. W. F. Boos, Boston.
14 Case Reports: Small Round-Cell Sarcoma of Tonsil, and Adenocarcinoma of the Left Maxillary Sinus. F. S. Crossfield, Hartford, Conn.

8. **Obstetrical Vagaries and the Pediatrician.**—Morse discusses the conditions met with by the pediatrician resulting from the practice of obstetricians. He considers the relations of cyanosis and congenital heart disease, phimosis, breast feeding, artificial feeding, premature infants, icterus and sepsis of new-born infants, autointoxication and congenital deformities. Some of his aphorisms are as follows: It is safe to say that if a new-born baby is cyanotic the one thing that is not causing the symptom, cyanosis, is a patent foramen ovale. The term phimosis should be restricted to the cases which persist into later boyhood. While phimosis is rare, adhesions are universal. During infancy he believes that neither true nor false phimosis often causes symptoms. There should be no interference without definite symptoms, and then if a cutting operation is necessary, a slitting of the foreskin is less harmful. In most cases the breaking up of adhesions with a probe and the retraction of the prepuce is sufficient to relieve all symptoms. He deprecates the "epidemic of circumcision which has arisen in the last few years." He also deprecates the giving of too strong mixtures and of too large amounts of food to new-born infants and to premature infants. Jaundice in

the new-born is not necessarily jaundice of the new-born; it may be due to sepsis or other causes. Sepsis is more common in the new-born than is generally supposed; it causes fever, jaundice, cyanosis, hemorrhages, disturbances of digestion, bronchitis and bronchopneumonia. Infection may gain entrance during labor, or after birth by the introduction of a dirty finger into the mouth or by not keeping dirty water out of the mouth during bathing. Autointoxication is not uncommon. Castor oil is the best remedy for it.

10. **Laryngotomy and Laryngectomy for Cancer.**—Greene reviews the history and describes the technic of laryngotomy and laryngectomy, also the after treatment. The mortality can be kept at a low figure by attention to the following details:

1. A careful selection of cases.
2. Attention to the cleanliness of the mouth.
3. The avoidance of shock by (a) the use of atropin before operation; (b) local use of cocain during operation; (c) the Trendelenburg position during the second stage.
4. The avoidance of inhalation pneumonia by (1) the Trendelenburg position during operation, and (2) rectal feeding and elevation of the foot of the bed after operation.

13. **Cold Storage of Poultry.**—Boos discusses the alleged frequency of ptomain poisoning from cold storage poultry. He shows that the cold storage *per se* can not possibly be responsible. In illustration of the preservative power of cold, he describes in detail a case of a mammoth found in a state of perfect preservation two years ago in northern Siberia. The mammoth had apparently fallen into a crevasse and died in its struggles to get out. It had lain in cold storage for over 10,000 years, and when its flesh was thawed it formed palatable food both for wolves and men. The poultry should be completely drawn before being placed in cold storage, but the consumer should buy the frozen bird and thaw it at room temperature, for, as the author shows, the usual handling in thawing the birds before sale is such as to predispose to decomposition.

Medical Record, New York

January 30

15 Leukemia in Advanced Life. A. A. Smith, New York.
16 *Some Common Injuries of the Elbow. J. P. Warbasse, Brooklyn.
17 *Motor Car Miscarriage. E. P. Davis, Philadelphia.
18 *Medical Psychology. G. V. N. Dearborn, Boston.
19 Early Diagnosis of Pulmonary Tuberculosis. A. H. Garvin, Ray Brook, N. Y.

16. **Injuries of the Elbow.**—Warbasse discusses contusions of the elbow joint, fractures, separation of the epiphyses, and dislocations, illustrating his article with radiographs. The first essential is familiarity with the bony landmarks. There need be no hesitancy in the use of general anesthesia. For the diagnosis of fracture or dislocation one should expose both elbows, and, with a pencil or ink, mark on the uninjured joint the three bony points; the tips of the internal and external condyles and the tip of th olecranon. With the arm in a straight position these three points should be nearly in a straight line. With the elbow at a right angle they should make approximately an equilateral triangle. The same marks should be made on the injured side, and the examination proceeded with. Even when there is much swelling, steady pressure will reveal the condyles. The head of the radius should be identified, and with both arms extended, the carrying angle of the two sides should be compared. These are the important points of inspection. Systematic examination is important. One should take up separately each location and feature of the injury. Is the swelling or ecchymosis localized or diffuse? Locate the point of tenderness. Is crepitus present? Is either condyle movable? Examine the olecranon process. Is there fracture or dislocation of the head of the radius? Each part of the three bones entering into the joint should be considered separately. No matter how skilled and thorough one is in these examinations the *x*-ray is an almost indispensable adjunct to treatment. As to the putting up of such injuries, Warbasse stands on the middle ground, between the extreme flexionists of Boston and the extensionists of Philadelphia, although flexion is applicable to the majority of cases.

17. **Motor Car Miscarriage.**—Davis says that a great shock or injury is sometimes better borne by pregnant women than frequently repeated shock, e. g., the use of the sewing machine with the foot. He reports cases illustrating the fact that motoring during the early months of pregnancy is frequently followed by abortion. The danger seems to lie in the fact that the rapid motion of a motor car subjects the patient to many small frequent jars. The characteristics of abortion following motoring are its slow and insidious development without bright hemorrhage or pain. These abortions are as a rule incomplete and require curetting. While motoring is dangerous in early pregnancy, in the latter months of gestation and with reasonable precautions as to smoothness of roads and moderation of speed, it may prove exceedingly useful.

18. **Medical Psychology.**—Dearborn urges the importance in medical education of instruction in psychopathology, and points out that it is essential for both the physician and surgeon if they are—as is so frequently urged—to treat, not the disease, but the individual suffering from the disease. Academic psychology has failed completely to make good in the laboratories. The new psychology finds its physical basis inherently in the neuroplasm, the protoplasm of the nerve. It is incumbent, therefore, that the medical schools for the present must supply their own psychology, as they do their own anatomy and much of their biology and chemistry. He refers to the courses in this department already existing at Johns Hopkins and Tufts medical colleges.

Lancet-Clinic, Cincinnati

January 30

20 *Carbon Dioxid Snow in Skin Lesions. M. L. Heidingsfeld and C. A. Ihle, Cincinnati.
21 Psychotherapeutics: Its Application and Limitations. I. O. Allen, Centerville, Ind.
22 Sugar-Splitting Ferment in Treatment of Diabetes. C. W. Orr, Cincinnati.

20. **Carbon Dioxid Snow.**—Heidingsfeld and Ihle's article is a further report in extension of the first named author's article on "Liquid Carbonic Snow in Dermatology," published in the *Ohio State Medical Journal*, August, 1908, and abstracted in THE JOURNAL, Sept. 19, 1908, p. 1037. The authors revise their previously expressed conclusions as follows:

Carbon dioxid snow is especially well adapted for the removal of pigmented and selected types of vascular nevi. It is not particularly efficacious in removing tattoo marks, and possesses a doubtful and rather a negative value in the successful treatment and permanent cure of lupus erythematosus.

It commends itself for certain forms of senile keratoses and degenerations of the skin. It is still a remedy of too tentative a character to commend itself as the method of choice in epitheliomata, common and venereal warts, lupus vulgaris, leucoplakia, lichen planus, and a host of other cutaneous affections, as was previously suggested.

Carbon dioxid snow, however, commends itself to every dermatologist as a therapeutic agent of unquestioned merit, worthy of an indispensable place in dermatologic practice.

Virginia Medical Semi-Monthly, Richmond

January 22

23 *Cesarean Section. L. C. Morris, Birmingham, Ala.
24 Gastroenterostomy for Ulcer of the Stomach or Its Sequelæ. G. T. Vaughan, Washington, D. C.
25 Bier's Hyperemic Treatment—Its Practical Application by the General Practitioner. W. A. Strother, Bedford City, Va.
26 *Is Mercury a Specific in Infectious and Contagious Diseases, as Well as in Syphilis? H. E. Jones, Roanoke, Va.
27 Treatment of Compound Fractures. E. M. Magruder, Charlottesville, Va.
28 Typhoid—Importance of Early Diagnosis—Fasting—Special Diet—Surgical Rest of Bowel—and Simplicity of Treatment. A. J. Burkholder, Mt. Sidney, Va.
29 Prevention of Typhoid. W. A Plecker, Hampton, Va.
30 Obstruction of the Bowel. C. T. Souther, Cincinnati.

23. Abstracted in THE JOURNAL, Nov. 21, 1908, p. 1807.

26. Abstracted in Society Proceedings, THE JOURNAL, Nov. 7, 1908, p. 1625.

Surgery, Gynecology and Obstetrics, Chicago

January

31 Papillary Cystadenoma in a Supernumerary Ovary. R. T. Frank, New York.
32 *Idiopathic Progressive Curvature of the Radius, or So-called Madelung's Deformity of the Wrist (Carpus Varus and Carpus Valgus). DeW. Stetten, New York.
33 Parathyroid Tumors. J. C. DaCosta, Philadelphia.
34 *Fracture of the Astragalus. J. H. Stealy, Freeport, Ill.
35 Tenosynovitis of the Hand. A. B. Kanavel, Chicago.
36 Carcinoma of the Gall Bladder; Presence of Stones as a Factor in the Etiology. R. R. Huggins and W. H. Ingram, Pittsburg, Pa.
37 Temporary Colostomy as a Curative Measure in Certain Forms of Postoperative Fecal Fistula. J. M. Elder, Montreal, Canada.

38 *Question of Diagnosis in the Case of a Patient Complaining of "Indigestion." A. C. Vietor, Boston.
39 Acute Traumatic Tetanus Treated by Magnesium Sulphate. A. P. Heineck, Chicago.
40 *Temporary Ventrosuspension of the Uterus. E. H. Ochsner, Chicago.
41* Why Operations for Bunion Fail, with Description of One That Does Not. J. L. Porter, Chicago.
42 Case of Multiple Peptic Ulcers of the Stomach Followed by Perforation. Autopsy. J. H. Hewitt, Cleveland, O.
43 Effective Dressing for Thigh Amputations. W. Van Hook, Chicago.
44 Coaptation and Imbricating Suture for Closing Abdominal Incision. D. T. Gilliam, Columbus, O.
45 Gastric Accretion. Case with Gastrotomy. A. M. Smith, Cherokee, Kansas.
46 Uterus Duplex Separatus cum Vagina Separata. A. R. Cunningham, Spokane, Wash.
47 Simple, Isolated Dislocation of the Carpal Scaphoid. H. B. Stone, Charlottesville, Va.

32. **Idiopathic Progressive Curvature of the Radius.**—Stetten discusses at considerable length the deformity of the wrist first clearly described by Madelung in 1878, and draws the following conclusions:

1. The so-called Madelung's deformity of the wrist is due to an antero-posterior bowing of the radius, usually of the shaft proper, occasionally of the epiphysis, and sometimes of both. This produces a deviation of the articular surface and an apparent subluxation of the wrist. The deformity is usually bilateral.

2. Heredity, the female sex, and youth (about eleven years) are predisposing factors, and the exciting cause is a local dystrophy, an irregular ossification of the distal extremity of the diaphysis, or of the proximal portion of the epiphysis, or both.

3. There are two distinct types, a forward, or common, and a backward, or rarer, one, in both of which, however, there is generally an exaggeration of the normal curvature of the radius toward the ulna. A corresponding increased inclination of the joint surface toward the ulna results, with adduction of the hand, and an angulation of the first row of carpal bones. The carpus usually retains its normal relations to the radius, but the caput ulnæ is dislocated backward or forward in the lower radioulnar and triangular-cuneiform articulations.

4. The disease is one of the growth period, developing spontaneously, with pain, and progressing gradually (from two to three years) with limitation of motion against, and increase of motion in the direction of the deformity. Numerous conditions simulate the lesion, but the history and the *x*-ray will establish the diagnosis.

5. The prognosis is good and treatment consists in osteotomy of the radius after the disease has run its course and the symptoms or deformity justify surgical intervention.

He summarizes a large number of reported cases.

34. **Fracture of the Astragalus.**—Stealy discusses this subject at length. He says that in injury to the ankle, with great pain and swelling, a radiograph is essential to a proper diagnosis, which must be guided by the manner in which the injury was sustained. The reduction of a dislocated fragment is almost always impossible. This condition will not correct itself. A dislocated fragment is liable to necrosis and destructive inflammation with suppuration, wherefore the dislocated fragment should be extirpated as soon as possible after diagnosis. The operation should be done expeditiously through one incision without destruction of important tissues.

38. **The Diagnosis of "Indigestion."**—Vietor says that symptoms of so-called indigestion group themselves as sensory and motor phenomena referred to the abdomen, but especially to the upper abdomen or middle zone of the trunk, and accompanied more or less by some degree of related or reflex secretory, nutritive, visceral, circulatory, respiratory, neuromuscular or psychic disturbances. The uncertainty of treatment directed to the digestibility of the foods and to the improvement of the digestive powers of the patient, coupled with laboratory and surgical experience, raises the presumption that symptoms of so-called indigestion are really symptoms of definite pathologic conditions intermediate to the terminal lesions long noted on autopsy. The importance of the knowledge of the frequent displacement of organs in the middle zone of the trunk, and that that zone acts as a reflex alarm center for the whole body is emphasized. In attempting to locate a pathologic condition causing symptoms in the upper abdomen, errors are most likely to be avoided by first excluding all causes lying entirely outside of the abdomen. But no matter how clear the presumption that a sufficient cause exists elsewhere, the diagnosis should not be considered established till affections of the abdominal wall and of the abdominal viscera are in turn excluded. The question of incompetence of the abdominal wall is of primary importance and is always accompanied by some displacement of the viscera. No matter where the viscera are displaced, their ultimate proximal attachments and their efferent vessels and nerves are still derived from the original sources in the upper abdomen. Hence, whenever the abdominal viscera are displaced, traction, with or without kinking, and torsion on their attachments can not be excluded. The pathologic effects of displacement, traction, kinking and torsion have been abundantly demonstrated elsewhere in the body. In the light of the foregoing, one can not but question whether the more definitely demonstrated lesions of the upper abdominal viscera—and even appendicitis and other lesions in the lower abdomen—are not more remote effects of this traction, kinking and torsion.

40. **Temporary Ventrosuspension of Uterus.**—It occurred to Ochsner, years ago, that if one could secure a temporary ventrosuspension of the uterus in practically every case of extensive pelvic infection in which a radical operation is performed, the prevention of the undesirable after-effects frequently found after operations of permanent ventrofixation and ventrosuspension would be avoided. He describes an operation with this object in view, for which he claims the following advantages: It has none of the objections attributed to permanent ventrosuspension or fixation; it is extremely simple and consequently easy of application; it does not open up new areas for infection; it does not increase the shock of operation; it leaves the pelvic organs in as nearly a normal condition as the pathologic conditions for which the operation is undertaken permit; and, finally, it has the great advantage of apparently being practically always effective.

41. Published in *Lancet Clinic*, Dec. 26, 1908, and *Louisville Monthly Journal of Medicine and Surgery*, January, 1909; and abstracted in THE JOURNAL, Jan. 16, 1909, p. 248.

Bulletin Lying-In Hospital of City of New York

September, 1908

48 Five Cases of Acute Gangrenous Appendicitis Occurring During Pregnancy. R. W. Lobenstine, New York.
49 *Management of Cardiac Disease with Broken Compensation During Pregnancy and Labor. J. A. Harrar, New York.
50 *Tuberculosis as a Complication of Pregnancy and Parturition. R. W. Lobenstine, New York.
51 Management of Occipito-Posterior and Transverse Positions of the Fetal Head. C. B. Knapp, New York.

49. **Cardiac Disease During Pregnancy and Labor.**—Harrar, on a basis of ninety-seven cases, discusses valvular disease in which loss of compensation has occurred during pregnancy or labor. He emphasizes the fact that serious loss of compensation can occur during the latter months of pregnancy and yet the woman be put into serviceable condition and go on normally with pregnancy. The immediate maternal mortality was found to be 30 per cent., the prognosis improving the further along in pregnancy the woman is at the time of the first breakdown in circulatory balance. The great mortality for the child is dependent on prematurity and the frequent necessity for artificial delivery. The metabolism of the child is not affected by the uncompensated maternal heart *per se*. As to prophylaxis, besides the treatment of endocarditis during the stage of compensation, emphatic instruction should be given to students and practitioners that pregnant women with chronic valvular disease must lead a quiet, regulated life. No undue exertion, such as long walks, climbing the stairs, or long journeys should be attempted. The passions must be controlled; anger or any emotional excitement is especially to be avoided. The medical treatment in broken compensation is similar to that of cases in non-pregnant women. The treatment mentioned includes digitalis, strophanthus, caffein, calomel and the salines, precedent to heart stimulation, morphin and codein for dyspnea and insomnia, also chloral; nitroglycerin, rectal injections of physiologic salt solution in suppression of urine, oxygen in sinking spells and cyanosis and dry cupping of the sides and back of chest in dyspnea from pulmonary edema and in suppression of urine. The obstetrical treatment is fully discussed. Induction of labor with merely chronic endocarditis is mentioned only to be condemned, and should be considered only when compensation fails. Even in these cases rest in bed and medicine should first be given a trial for from 5 to 10 ten days. Labor should be induced (a) if, though the symptoms improve somewhat with rest in bed and the usual therapeutic measures, the compensation does not promptly become restored; (b) if the compensation once lost has been regained, when it may be done

at the thirty-sixth week to secure easier labor; (c) if the compensation fails markedly before the sixth month; (d) in desperate or moribund cases, in the interest of the child. Here *accouchment forcé* with rapid manual dilatation of the cervix, or vaginal hysterotomy, is frequently justifiable. He describes the method of inducing premature labor and the management of the second and third stages of labor. The baby, whether premature or full term, should be given to a wet nurse. Chronic valvular disease is in itself not necessarily a serious condition in the child-bearing woman.

50. **Tuberculosis, Pregnancy and Parturition.**—Lobenstine's paper is written to combat the old time superstition that pregnancy is beneficial or at least not harmful to a woman possessed of a tuberculous pulmonary lesion, and to present the very serious and baneful effects of pregnancy and parturition on tuberculous subjects. The paper is based on 100 cases. He cites illustrative cases, and reproduces Osler's considerations on the relation of tuberculosis and marriage. Regarding general management he emphasizes *inter alia* the following points: The obstetrical treatment depends on the time in pregnancy at which the patient comes under observation. During the first three or four months artificial abortion should be resorted to after due care and deliberation, in the majority of cases. After the first three or four months, (a) pregnancy should be allowed to continue if the patient is holding her own fairly well; (b) if the case was only moderately severe at the beginning of pregnancy and the patient is losing ground, pregnancy should be interrupted; (c) if the case is a bad one, interruption of pregnancy is of no real value; in fact, in the patients losing ground rapidly it merely tends to hasten their death. Labor should always be made as easy as possible, particularly the second stage, which, as a rule, should be assisted with forceps or version. Little anesthesia should be used, and, when used, is advantageously combined with oxygen.

Journal of Abnormal Psychology, Boston

December-January

52 *The Seat of Consciousness. F. Peterson, New York.
53 *An Introspective Analysis of Conscious Life (continued). By a Co-conscious Personality. (B.)
54 *The Unconscious (continued). M. Prince, Boston.

52. Abstracted in THE JOURNAL, Nov. 28, 1908, p. 1893.

53. **The Co-Conscious Life.**—This is a continuation of the article in the preceding issue (abstracted in THE JOURNAL, January 30, 1909) in which the subject herself describes her life as a dissociated personality. She now describes the genesis of dissociation, her co-conscious life, the content of the co-consciousness, its separateness and continuity and emotion, its relation to the other personalities, its ability voluntarily to influence the personal consciousness, and its involuntarily influence thereon, and the nature of its dreams.

54. **The Unconscious.**—A survey of the facts related by Prince brings out into strong relief the important principle that no matter in what state complexes are formed, so long as they are conserved they become a part of our personality. They become dormant, but, being conserved they may, under favorable conditions, become awakened and enter our conscious life. It matters not whether complexes have been formed in our personal consciousness or in a state of hypnosis, in dreams, in conditions of dissociated personality, in co-consciousness, or any other dissociated state; they are all parts of ourselves, and may afterward be revivified, whether volitionally or automatically. Through the formulation of the conception of the subconscious as resolvable, on the one hand, into the unconscious or complexes conserved as passive physiologic residua, and, on the other hand, into coactive conscious states, all the so-called subconscious phenomena known to date are intelligible. It offers a basis for comprehensible theories of memory, suggestibility, posthypnotic phenomena, dreams, automatic writings and similar phenomena, artificial hallucinations, the dissociative and automatic phenomena of hysteria, and, to a large extent, the mechanism of thought. Aside from certain artificial and pathologic conditions, there is no normal subconscious self, or subliminal self, or secondary self, or hidden self, properly speaking.

Journal of Advanced Therapeutics, Rahway, N. J.

December

55 *Disruptive High-Frequency Discharges, by Reaction Method, as a New and Important Therapeutic Agent. M. W. Brinkmann, New York.
56 *Treatment of the Enlarged Prostate by the High-Frequency Current. M. M. Johnson, Hartford, Conn.
57 Treatment of Varicose Veins and Varicose Ulcers by the Static Wave Current. H. Finkelpearl, Pittsburg, Pa.
58 Cataphoric Operations as Modified by the Topographic Situation of Particular Neoplasms, with Detailed Report of Cases. G. B. Massey, Philadelphia.

55 and 56. Abstracted in THE JOURNAL, Nov. 28, 1908, p. 1890.

Journal of the Arkansas Medical Society, Little Rock

December

59 *Surgical Treatment of Retroflexion. W. H. Miller, Little Rock.
60 *Immediate Repair and After-Treatment of Lacerations of the Perineum. W. A. Snodgrass, Little Rock.
61 *Skin Lesions as Danger Signals. N. Klein, Texarkana, Tex.
62 The Doctor's Wife. S. Dickson, Paragould.

59, 60, 61. Abstracted in THE JOURNAL, July 18, 1908, pp. 249, 250.

Cleveland Medical Journal

December

63 *Case of Traumatic Asphyxia. R. A. Bolt, Cleveland.
64 Forty-two Consecutive Abdominal Hysterectomies for Uterine Fibroids. F. E. Bunts, Cleveland.
65 Drugs in Cardiac Therapy. J. B. McGee, Cleveland.
66 Acute Pericarditis Following Removal of Gonorrheal Pyosalpinx. J. L. Bubis, Cleveland.
67 Clean Milk. C. Christadoro, San Diego, Cal.

63. **Traumatic Asphyxia.**—Bolt describes at length a case of traumatic asphyxia. He reviews the literature of the subject, and summarizes it in tabular form. He discusses in detail the clinical findings in the reported cases and the underlying mechanism and pathologic changes, particularly in relation to the discoloration of the neck and face. He says that the mild and incomplete forms approach closely true asphyxia with cyanosis. Powerful thoraco-abdominal effort on the part of the patient may be sufficient to produce the incomplete form, but to cause a traumatic asphyxia there must be a severe and sudden compression of the abdomen and thorax for a sufficient period to suspend respiration, and at the same time force the carbonized blood largely into the veins and capillaries of the cervicofacial region. This is favored by the lack of competent valves in the veins leading from the head, and the protection which the well-formed valves give to the trunk and extremities. The sudden reflex of blood causes a dilatation of the venules and capillaries. Pressure on the abdominal and thoracic sympathetic plexuses may add to the effect of dilatation and cause a temporary paralysis of the vessel walls. A condition of venous stasis is thus favored which gives rise to the peculiar discoloration. In most cases no injury has been caused to the vessel walls, and the blood has been confined to the vessels. But from authentic reports, we must conclude that the condition may become so severe as to cause a diapedesis, or even extravasation of the blood in certain regions of the face and neck.

California State Journal of Medicine, San Francisco

December

68 *Hematuria. G. MacGowan, Los Angeles.
69 Pentoses. A. H. Jones, Los Angeles.
70 *Postoperative Treatment. O. D. Hamlin, Oakland.
71 Opsonic Index and Vaccine Therapy. R. Bine, San Francisco.

68. **Hematuria.**—MacGowan discusses systematically hematuria arising respectively from the anterior urethra, the posterior urethra and prostate, the seminal vesicles, the bladder, the ureter and the kidneys, and cites numerous cases illustrating the various forms and their causes.

70. **Postoperative Treatment.**—Hamlin points out that the surgeon's responsibility does not end with the laying down of the scalpel, but continues until convalescence has set in. The purpose of after-treatment is to prevent complications; failing this, to recognize them early and to treat them intelligently, so as to secure, not only recovery, but the best functional results. He discusses the postoperative posture of the patient and thinks the traditional dorsal posture subject to many rational objections. He urges the right side posture when the patient is taken from the operating room o. begins

to recover from the anesthetic, cases requiring, for technical reasons, special posture being of course excepted. For anesthetic vomiting he recommends large draughts of water containing some alkali, such as sodium bicarbonate. After lavage of the stomach, cocain hydrochlorid, grain 1/12 (0.005 gm.) bismuth subnitrate, grains 5 (0.032 gm.) and cerium oxalate, grain ½ (0.03 gm.) may be given dry, on the tongue. Sometimes it is useful to spray the nostril with 4 per cent. cocain solution. Finally, he discusses at length postoperative shock under four different classes, namely that due respectively to vasomotor depression, hemorrhage, the toxic effect of the anesthetic, and mental disturbance, psychic shock. This last is particularly likely to occur in neurotic and alcoholic patients, children, and others of timid nature.

Detroit Medical Journal

December

72 *Prophylaxis of Cancer. T. A. McGraw, Detroit.
73 The Climate Controversy. E. S. Bullock, Silver City, New Mexico.

72. **Prophylaxis of Cancer.**—McGraw says that we may reasonably conclude that, though in our ignorance of the fundamental cause of malignant degenerations we have no certain means of prevention, we may, nevertheless, hope to forestall its development, in many cases, by curing pathologic conditions which act as exciting causes. Surface cancers are largely due to injuries, chronic irritations, inflammations and ulcers, which destroy the resisting power of the tissues and stimulate the development of cancer germs. The neglect of such troubles, therefore, especially in persons of middle and old age, may result in disaster. We should therefore see to it that men and women approaching middle life are cured of such troubles. Uterine lacerations should be repaired, gallstones removed, chronic gastric ulcers operated on, and chaps and indurations of the lower lip and ulcers in the mouth excised. Wherever a morbid spot shows itself on the skin or mucous surfaces, it should be made the subject of careful consideration and treatment. By so doing we may reasonably expect to prevent the development of cancerous troubles in such localities. In the deeper seated cancers springing from the glandular epithelium, we have to regret in most cases the absence of all previous indications of local disease. All we can do is to learn to recognize them at the very earliest period when thorough excision may possibly remove all metastatic cells. We must not forget the part played by certain benign tumors in affording a suitable ground for the generation and development of malignant tumors. This teaches us to insist in the absence of positive contraindications on the removal of all tumors, however innocent in appearance and character, as soon as they appear.

Journal of Inebriety, Boston

Winter, 1908

74 The Influence of Narcotics on Metabolism. W. S. Hall, Chicago.
75 *General Principles of the Treatment of Habitual Drunkards. T. C. Shaw, London, Eng.
76 Influence of Alcohol and Autotoxicosis on Nervous and Mental Diseases. G. H. Benton, Chester, W. Va.
77 The Physician and Alcohol. Prof. M. Kassowitz, Vienna, Austria.
78 Alcohol an Important Factor in the Etiology of Mental and Nervous Diseases. D. R. Brower, Chicago.
79 Alcoholic Insanities. A. Gordon, Philadelphia.
80 The Pauper Inebriate from a Medical and Legal Standpoint. L. D. Mason, Brooklyn.

75. Published in the *British Medical Journal*, Sept. 19, 1908

Journal of Infectious Diseases, Chicago

December

81 Plague Among the Ground Squirrels of California. W. B. Wherry, Oakland, Cal.
82 Rat Leprosy and the Fate of Human and Rat Lepra Bacilli in Flies. W. B. Wherry, Oakland, Cal.
83 Streptococci Occurring as Diplococci in Rats. W. B. Wherry, Oakland, Cal.
84 Experiments on Use of *Bacillus Pestis Cavia* as a Rat Virus. W. B. Wherry, Oakland, Cal.
85 Experiments on the Germicidal Action of Cow's Milk. P. G. Heinemann and T. H. Glenn, Chicago.
86 Pyocyaneus Infections, with Report of Two Rare Cases. H. H. Waite, Lincoln, Neb.
87 Method for the Staining of Negri Bodies. D. L. Harris, St. Louis, Mo.
88 The Occurrence of Thermostable and Simple Bactericidal and Opsonic Substances. A. Hamilton, Chicago.
89 Effect of Injections of Homologous Streptococci, Killed by Heat, in Streptococcus Complications in Contagious Diseases. G. H. Weaver and R. Tunnicliff, Chicago.
90 Streptococcus Immunization. G. H. Weaver and R. Tunnicliff, Chicago.
91 Injections of Heterologous Streptococci, Killed by Galactose, in Erysipelas and in Scarlet Fever. G. H. Weaver and T. H. Boughton, Chicago.
92 Simple Synthetic Media for the Growth of *B. Coli* and for its Isolation from Water. M. L. Dolt, Providence, R. I.

Interstate Medical Journal, St. Louis

December

93 Conservative Methods of Treatment of the Inflammatory Diseases of the Tubes. P. Findley, Omaha, Neb.
94 Persistent Sinus After Nephrectomy. W. C. Kirchner, St. Louis.
95 Examination of the Stools of Infants. J. Zahorsky, St. Louis.
96 Fat Incapacity in Young Infants. A. S. Bleyer, St. Louis.
97 Case of Jonathan Swift. G. M. Gould, Ithaca, N. Y.

Journal of the Kansas Medical Society, Kansas City

December

98 *Dieto-therapy of Acute Fevers. C. F. Menninger, Topeka.
99 Screw Worm Disease (Myiasis). Z. Nason and G. H. Hoxie, Rosedale, Kan.
100 Opportunity and Duty of the Kansas Medical Society. W. H. Graves, Wichita, Kan.

98. **Dieto-Therapy of Acute Fevers.**—Menninger discusses the classification of diseases having fever, and the application of diet to etiologic therapy, antipyresis, stimulation, and its influence on kidney function, the digestive tract, and metabolism. He concludes that the fever patient should receive a liberal supply of food; thereby the burning up of non-nitrogenous substances of the body will be prevented and at the same time provision will be made that the cells shall retain that albuminous tissue which would be destroyed if not enough non-nitrogenous food were given. Abundant supply of nourishment will limit the fever consumption, but diet in acute fevers will never be able completely to cover the loss, let alone to make an increase over and above the loss.

Laryngoscope, St. Louis

December

101 Rhabdomyoma of the Nose. D. T. Vail, Cincinnati.
102 *Relationship Between Degenerate Tonsils and Middle Ear Deafness. J. N. Reik, Baltimore.
103 Postoperative Effects of the Stacke Operation. J. F. McKernon, New York.
104 *Value of Differential Blood Count and of Bacteriologic Examination of Aural Discharge as Diagnostic Factors in Cases of Mastoid Involvement. E. B. Dench, New York.
105 *Rhinoscleroma in North America. E. Mayer, New York.
106 Case of Primary Sarcoma of the Nasopharynx. J. F. McCaw, Watertown, N. Y.
107 Tuberculous Ulceration of the Petiolus Region of the Epiglottis. T. J. Reardon, Boston.
108 Improvement of Technic in Various Sinus and Mastoid Operations. J. R. Fletcher, Chicago.
109 Osteochondroma of the Septum with Extensive Absorption of the Cribriform Plate; Tumor Extruding into the Cranial Cavity, Sphenoidal and Ethmoidal Cells. R. C. Myles, New York.

102. **Degenerate Tonsils and Deafness.**—Reik emphasizes the importance of carefully looking for diseased tonsils, and getting rid of them completely when found, in all cases of beginning or progressive middle-ear deafness; not that their enucleation will always arrest the progress of the condition or cure it, but that it will eliminate at least one of the possibly important factors in its production.

104. **The Blood Count in Mastoid Disease.**—Dench believes that we may safely say that an increased polymorphonuclear percentage and an increase in the leucocyte count, are of absolutely no value in determining the presence of pus in the mastoid in doubtful cases. When these variations from the normal blood count occur in aural cases, we must look for one of the three conditions: (1) Some visceral lesions; (2) some involvement of the soft tissues in the immediate vicinity of the wound; (3) some involvement of the intracranial structures, either of the brain substance or of the lateral sinus. It should be particularly borne in mind, as is clearly demonstrated by the statistics, that in certain instances, a thrombosis of the lateral sinus may occur, in which the polymorphonuclear count will not rise above 80 per cent., and in which the leucocytosis will not be greatly increased. The surgeon must still rely on clinical signs of involvement of the mastoid and of the intracranial structures, and must put the bacteriologic examination of the discharge and the differential blood count in a secondary place, in arriving at his diagnosis.

105. **Rhinoscleroma in America.**—Mayer says that rhinoscleroma, an unusual affection at least in this country, but endemic in Poland, is contagious to a degreee and may involve the external and internal nose, the pharynx, larynx or either one with the other of those parts. The total number of undoubted cases of the affection reported by Dr. Friedberg as occurring in the United States, was 16; of these 13 were females and 3 males; the youngest patient was 9 years old and the oldest 54 years old; the average age was 30 years. Of this number the nose only was involved in 4 cases, the nose, pharynx and larynx in 2 cases, the nose and larynx in 4 cases, and the nose and pharynx in 6 cases. In all the cases, the affection had its beginning before the patients came to this country, all came from some part of Poland, and no authentic case originating in the United States has been found.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

December

110 *Causes of Mortality from Heart Disease in the United States. T. Darlington, New York.
111 *Tuberculosis in the Insane. F. Woodbury, Philadelphia.
112 Systemic Infection Through the Tonsils. R. B. Scarlett, Philadelphia.
113 Parenchymatous Nephritis and Multiple Verruca (Warts). J. V. Shoemaker, Philadelphia.
114 Some Gynecologic Abnormalities. J. A. McGlinn, Philadelphia.
115 Don't Swallow the Enemy—Don't Touch the Enemy—Don't Breathe the Enemy. F. T. Woodbury, U. S. Army.

110. **Mortality from Heart Disease.**—Darlington recapitulates impressions gained from a study of heart disease in the United States as follows:

1. The mortality rate from heart disease is steadily increasing.
2. This increase is general throughout the United States and is apparently unaffected by climate conditions, locality or density of population.
3. The correlated condition, chronic Bright's disease, shows a corresponding increase in mortality.
4. The general death rate is steadily decreasing.
5. No other disease shows a general relative increase in its death-rate.
6. The commonly accepted cause of cardiac affections can not be held responsible for the increased death rate without further study of their etiology.
7. The effect produced by high-strung nervous tension, induced by modern methods of social and business competition, must be regarded as a causative factor in the production of functional and ultimately organic cardiac disease.
8. The medical profession has before it an opportunity of great vital moment in teaching the doctrine of right living, advocating a saner and more wholesome attitude toward life, and standing as a unit against the false standards of material gain and advancement obtained by the sacrifice of the normal, healthful and peaceful attributes of calm mental poise, equable temperament and physical well-being.

111. **Tuberculosis in the Insane.**—Woodbury makes a plea for the humane treatment of dying tuberculous insane patients. There is a group of cases in which consumption must be regarded not so much as a disease as a mode of dying. In such cases, among sane or insane, curative treatment necessarily harsh and invigorating is out of place.

New York State Journal of Medicine, New York

December

116 Medical Journalism. J. P. Warbasse, Brooklyn.
117 Hysteria and Allied Neuroses. N. A. Pashayan, Schenectady.
118 Present Status of the Calmette Reaction. I. W. Voorhees, New York.

New Orleans Medical and Surgical Journal

December

119 *Pellagra in the Southern States. G. H. Searcy, Tuscaloosa, Ala.
120 Nervous Hygiene and the Control of Nervous Impulse. E. M. Hummell, New Orleans.
121 Tuberculosis Clinics and Dispensaries. S. E. Chaillé, New Orleans.
122 *Roentgen-Ray Diagnosis of Diseases of Bones and Joints. A. Granger, New Orleans.
123 *Recurrent Gonorrhea in Married Men. C. W. Allen, New Orleans.
124 Case of Anterior Poliomyelitis. L. L. Cazenavette, New Orleans.
125 Prophylaxis of Gonorrhea. F. J. Chalaron, New Orleans.

119. Commented on editorially in THE JOURNAL, Jan. 2, 1909, p. 54.

122. Published in the *Journal of Advanced Therapeutics*, November, 1908.

123. **Recurrent Gonorrhea in Married Men.**—Allen criticizes the prevalent custom of treating recurrent symptoms of gonorrhea with a syringe and internal sedatives, and ceasing with the disappearance of discharge. He cites cases indicating that much morbidity in married women is due to outbreaks in the husband of a supposedly cured gonorrhea. He insists that the majority of cases in primary infection result in a posterior urethritis far oftener than is generally supposed. Such cases are not to be cured by merely placing a syringe in the hands of the patient. They tend to subside, only to recur later from various existing causes.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

December

126 *Application of the Obstetrical Forceps—a Plea for Restraint. B. Lankford, Norfolk, Va.
127 Several Unusual Forms of Superficial Inflammation of the Cornea. W. C. Posey, Philadelphia.
128 Case of Sporadic Cretinism. J. B. Nowlin, Buckingham, Va.
129 Conclusions Concerning Typhoid in the South, as Deduced From a Study of Typhoid in Richmond, Va. (concluded). E. C. Levy and A. W. Freeman, Richmond.
130 Typhoid Bacillus Carriers. St. G. T. Grinnan, Richmond.
131 New Treatment for Hypertrophied Prostate. J. W. Hunter, Norfolk.

126. **Application of Forceps.**—Lankford believes that forceps are used to-day too frequently, and with not sufficiently potent reasons. We should be guided by two, and only two, reasons for applying forceps; the ultimate good to the mother or to the child, and the mother should have the preference. Pelvimetry should be practiced in all primiparous pregnancies and should be found a great help. The lateral position for both simple and forceps cases, especially with the Neville (Irish) forceps, has marked advantages over the dorsal because of greater precision, stricter cleanliness and simpler technic.

Ophthalmic Record, Chicago

December

132 Increased Tension in Ocular Diseases of Infancy and Childhood. J. E. Brown, Columbus, O.
133 The Sphenoidal Sinus as a Possible Etiologic Factor in the Production of Retrobulbar Neuritis from an Anatomic Standpoint. L. M. Francis and J. A. Gibson, Buffalo, N. Y.
134 Family Exophoria. W. Reber, Philadelphia.
135 Innovations in the Operative Treatment of Persistent Glaucoma. Study of Substitutes for Iridectomy. P. Fridenberg, New York.
136 Report of Corneal Case. J. W. Kimberlin, Kansas City, Mo.
137 Pyramido-Zonular Cataract. B. Chance, Philadelphia.
138 Tuberculosis of the Eye. F. H. Verhoeff, Boston.
139 Ophthalmic and Aural Laboratory Diagnosis. D. M. Campbell, Detroit.
140 Congenital Cataracts with Calcareous Deposits. S. Mitchell, Hornell, N. Y.

Archives of Pediatrics, New York

December

141 Case of Incomplete Heterotaxy, with Unusual Heart Malformations. B. F. Royer and J. D. Wilson, Philadelphia.
142 *Causative Factors of the Paralyses of Early Life. R. S. Haynes, New York.
143 Diagnosis of Paralyses of Early Life. E. G. Zabriskie, New York.
144 *Electrotherapy in Paralyses of Early Life. T. A. Romeiser, New York.
145 *Surgical Treatment of the Paralyses of Early Life. R. H. Sayre, New York.
146 Mechanical Treatment of the Paralyses of Early Life. W. R. Townsend, New York.
147 Two Cases of Herniotomy for Strangulated Inguinal Hernia in Infants. A. P. C. Ashhurst, Philadelphia.
148 Adenoid Vegetations from the Standpoint of the Pediatrist. J. E. Hunt, Kansas City, Mo.
149 *Infantilism (Lorain Type). A. Hymanson, New York.

142. **Paralyses of Early Life.**—Haynes emphasizes the facts that paralyses in early life may be due to lesions in any part of the motor tract; that they may be caused by any one of several factors; that a number of clinical affections which cause paralysis exist, but that poliomyelitis and cerebral lesions cause an overwhelming majority of the cases.

144. **Id.**—Romeiser strongly emphasizes the fact that the time when electrical treatment should begin is of some importance. Too soon may do harm. Not before the inflammatory process in the cord has subsided before all irritative phenomena of pain and tenderness have disappeared, should there be any electrical stimulation—in most cases not before the end of the first month. In mild cases, earlier, say about the third week.

145. **Id.**—Sayre discusses stretching the shortened muscles, tenotomy tendon transference, and nerve transference. With regard to the last, his own experience has not been satisfactory, and with regard to the experience of others in those cases that he has seen, the results did not appear so good to

him as to those who operated. Sayre feels that the operation should be tried in suitable cases, but he does not feel that it has yet been shown that a nerve paralyzed for a long time can be regenerated by splicing it to a live one.

149. **Infantilism.**—Hymanson reports a case of the Lorain type and discusses the differences between that and the myxedematous type. In the first type deficient or abnormal function of the thyroid is always present; in the second there is defective arterial development, causing insufficient nourishment of the tissues. Hymanson points out that a skiagraph of the hand is of great importance in differentiating the myxedematous from the Lorain type. If there is a deficiency in the appearance of the nuclei of the carpal bones, and also failure of the metacarpals or phalanges to unite, then the case belongs to the myxedematous type and the thyroid treatment is indicated; but in the Lorain type, where ossification is premature, thyroid treatment is of no value.

Southern Medical Journal, Nashville

December

150 *Larval Tapeworm in Human Flesh. H. Gates, Manatee, Fla.
151 Radical Anorectal Surgery Without General Anesthesia. A. B. Cooke, Nashville.
152 Present-day View of Arteriosclerosis and Its Significance. A. G. Brown, Richmond, Va.
153 *Anorexia. G. M. Niles, Atlanta, Ga.
154 Modern Methods in Diagnosis of Diseases of the Digestive System. C. P. McNabb, Nashville, Tenn.
155 Case of Fracture of the Base of the Skull. J. W. Alsobrook, Plant City, Fla.
156 Expert Testimony and the Medical Witness. L. M. Crafts, Minneapolis.

150. **Larval Tapeworm in Human Flesh.**—With a few introductory lines Gates republishes the paper of C. W. Stiles, read before the International Dermatological Congress, 1907, and abstracted in THE JOURNAL, Oct. 12, 1907, p. 1305. The paper was published also in *Journal of Cutaneous Diseases*, August, 1908.

153. Abstracted in THE JOURNAL, Dec. 5, 1908, p. 1994.

St. Paul Medical Journal

December

157 Postoperative Treatment. H. J. O'Brien, St. Paul.
158 Acute Suppuration of the Middle Ear with Mastoiditis. E. W. Benham, Mankato.
159 Simple Atrophy of Infants, and Its Relation to Food. W. R. Ramsey, St. Paul.
160 *Sick Room Helpers. H. Sneve, St. Paul.
161 Ocular Tuberculin Reaction. H. W. Miller, Jamestown, N. D.

160. **Sickroom Helpers.**—Sneve faces the fact that the extent of the training and qualifications of trained nurses in the present day places them out of the reach of approximately 80 per cent. of the population. He describes a plan recommended by a committee of the Ramsey County Medical Society, to provi for $10.00 a week trained sick-room helpers. Let training schools so arrange their work that the whole field is essentially covered in the first year; those women worthily completing this course should receive a certificate as sick-room helpers and the privilege of going out and caring for the sick. All those desiring to enter the profession of trained nurse should be required to take two years' training. This will give opportunity for more careful culling of the material that should finally qualify in the nursing profession as registered nurses.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal

January 16

1. Alpine or Home Climates for Early Tuberculosis? W. Ewart.
2 Selection of Sanatorium Cases for Treatment with Tuberculin. H. H. Thomson.
3 Contusion of the Lung without External Injuries. E. M. Payne.
4 *The Body Weight in Relation to Pulmonary Tuberculosis. F. P. Weber and W. R. Kirkness.
5 *Asthma: Causation and Treatment. W. Lloyd.
6 Pancreatic Diabetes Associated with Dilatation of Stomach, for which Gastroenterostomy has Been Performed. J. S. McKendrick.
7 Causation of Ingrowing Toenail. G. A. Stephens.
8 *Effective Treatment of Acute and Subacute Rheumatism. D. B. Lees.
9 Primitive Muscle Tissue of the Human Heart. A. Gibson.
10 Difference in Content of Immune Substances in Blood Serum and Plasma. G. Dreyer and E. W. A. Walker.
11 Production of Immune Substances. G. Dreyer and E. W. A. Walker.
12 *Industrial Syphilis. C. Belcher.

4. **Body Weight and Pulmonary Tuberculosis.**—Weber and Kirkness detail a series of observations at the Mount Vernon Hospital for diseases of the chest, undertaken to ascertain the average weight of consumptive patients: (1) In comparison to their height; and (2) in comparison to the average of their former weights. They found a decided preference for tuberculosis in underweights, less marked in females.

5. **Asthma.**—Lloyd holds that the only theory as to the causation of asthma that can be successfully maintained in the present state of our knowledge is that it is essentially a nervous disease due to spasm of the bronchial muscles induced reflexly by irritation of either the nasal mucous membrane or the alimentary canal, the former being the commonest. There are three factors in its causation, namely, (1) the presence of hypersensitive areas in the nasal mucous membrane or a special sensitiveness of the gastric mucous membrane; (2) a special irritability of the pulmonary nervous system, which constitutes the asthmatic idiosyncrasy with which the individual was born; (3) the presence of an irritant—for example, odors, dust, smoke, etc.; or errors in diet when of gastric origin. The absence of any one of these factors is sufficient to prevent the disease. In the treatment of the paroxysm search should be made for the exciting cause, and when found it should be removed if possible. If the atmosphere contains anything irritating the patient must be removed. The best posture is in an armchair before a table with a cushion on it, so that the patient can rest his elbows and throw himself forward. Ipecac powder, administered early, often cuts short an attack for the rest of the night. A pipe of tobacco acts admirably on some patients. Coffee, very hot and strong, and without sugar and milk, is an effectual remedy. Alcohol, chloroform and cocain are valuable remedies. Other remedies mentioned are strammonium smoking and the fumes of burning nitre paper. Potassium iodid, in the author's experience, has given very little relief. An asthmatic should dine early, 5 p. m., at the latest if he goes to bed at 10, and the food should be nutritious, easily digestible, plain, well cooked and containing the proper proportion of animal and vegetable elements. Rectification of disease or deformity of the nose is important. When such is not present, cauterization of the asthmogenic areas must be practiced. Common salt solution is the best nasal cleanser; other salts are irritating.

8. **Rheumatism.**—Lees lauds the use of sodium salicylate in large doses, combined with double the amount of sodium bicarbonate to each dose. He controverts the idea that pure sodium salicylate is a cardiac depressant. We must give up the conception of acute rheumatism as a form of arthritis of adults, with occasional metastasis to the heart and with certain "peculiarities" when it occurs in childhood, and insist on it as a microbic toxemia, most virulent in early life, in which the heart is invariably affected to a greater or less degree, and the joints lightly or not at all. It is desirable to administer salicylate and bicarbonate of sodium, combined, in frequent, but at first moderate doses, say every two hours from 6 a. m. to 10 p. m. The amount of each dose should be increased daily, or every second day, until unpleasant by-effects—e. g., vomiting, deafness, tinnitus, vertigo, etc.—are observed. Drowsiness in children or an acetone odor or acetonuria, with slowing and deepening of respiration, are danger symptoms. They may be entirely prevented by the relief of constipation and the use of sufficient sodium bicarbonate to render the urine alkaline. The initial dose of sodium salicylate for an adult may be 15 grains, or 150 grains daily; for a child of from 7 to 12 years, 10 grains, or 100 grains daily; for a child younger than 7, 5 grains, or 50 grains daily, given in each case with twice the amount of sodium bicarbonate. The daily increase of dose may with advantage be from 2 to 5 grains, in the individual dose—that is, from 20 to 50 grains in the total amount given daily. The

increase in the dose should be progressive until the evening temperature is and remains normal. The amount needed for a child may be nearly as great as for an adult, for in a child the infection is more virulent and renal elimination is more active. In some mild cases of acute and subacute rheumatism it may be sufficient to increase the dose of the salicylate to 150 grains daily, but in many it is desirable to increase it to 200 or 250, and in some severe cases to 350 or 400 grains. Chorea often requires from 250 to 350 or even 400 grains.

12. **Industrial Syphilis.**—Belcher describes a case of syphilis contracted by a coatmaker, from the habit of pressing the cloth she was working on against her chin. The worker from whom she received garments, who had been previously working on them, was a syphilitic. Belcher urges that syphilis should be made notifiable.

Lancet, London

January 16

13 *Thrombosis and Embolism After Operations on the Female Pelvic Organs. J. Bland-Sutton.
14 Combination of Substances which Excites Ameboid Movement in Leucocytes, by which Living Can be Differentiated from Dead Cells. H. C. Ross.
15*An Excitant for the Leucocytes of Healthy Persons Found in the Blood Plasma of Patients Suffering from Carcinoma. C. J. Macalister and H. C. Ross.
16 Ileosigmoidostomy for Relief of Inveterate Constipation. C. W. M. Moullin.
17 New Method of Orchidopexy. M. Mamourian.
18 Fibrolysin in Ophthalmic Practice. K. Grossmann.
19 *An Efficient Treatment for Pneumonia. D. Crowly.
20 New Parasite Seen in a Case of Dysentery. J. Bell.
21 *Mumps. J. G. Sharp.

13. **Thrombosis and Embolism After Pelvic Operations.**—The main object of Bland-Sutton's Hunterian lecture is to consider the mode of origin of those blood clots which are big enough, when detached from the veins in which they are formed, to occlude the pulmonary artery with fatal effects. It is necessary to appreciate the fact that thrombosis is in reality a defensive action of the blood. In collecting material Bland-Sutton's chief object was to find out the causes of thrombosis besides sepsis, but a study of the conditions underlying the formation of thrombi in the great veins after pelvic operations convinces him that sepsis is responsible for all. He discusses the course of postoperative thrombosis in regard to the saphena vein and the ovarian vein, and considers in detail embolism of the pulmonary artery, describing its signs, and the operative treatment as instituted by Trendelenburg. He insists on the fact that the detachment and transit of the clot are usually preceded by movement—getting out of bed for the first time after operation, even sitting up in bed, but more particularly straining during defecation. On this ground Bland-Sutton, in common with most British surgeons, is opposed to the practice of allowing patients to get out of bed a few days after such operations. Under the most favorable conditions he keeps his patients confined to bed for two weeks, and in no case is a patient allowed to get up until her temperature has been normal for at least three days. Pulmonary embolism occurs much more frequently after abdominal hysterectomy for fibroids than after any other operation, and is especially liable to happen in women who are profoundly anemic from profuse and prolonged menorrhagia, due to the presence of a submucous fibroid. He insists on the most painstaking care in the preparation of ligature material and in the use of sterilized rubber gloves over thoroughly washed hands in pelvic operations.

15. **Excitation of the Leucocytes in Patients Suffering from Carcinoma.**—Macalister and Ross direct attention to the possibility of cancer being the local manifestation of a disease which is dependent on changes in the blood, difficult to account for, but yet so constant that their association with the neoplasm can not be disregarded. This consideration led to the application of a method (detailed in the preceding paper by Ross) for distinguishing dead leucocytes from living ones by the fact that live cells resting on agar jelly that contains, besides neutralized sodium citrate and sodium chlorid, a certain proportion of methylene blue and atropin sulphate, will exhibit exaggerated ameboid movements. The stain is the most important constituent of this excitant. In neutral jelly the excitation somewhat inconstantly occurs without addition of the alkaloid, but on the addition of an alkali in amount proportionate to the temperature of the room sufficient to produce diffusion of the stain, marked excitation occurs only when the alkaloid is present. Certain alkaloid-like toxemic symptoms found in cases of cancer suggested that in the blood of cancer patients there might be some substance which, in the presence of an alkaline plasma, acts as a stimulant to the normal cells, thereby in some way giving rise to the new growth. They had in the wards a patient with carcinoma of the pylorus, who, while not taking any narcotics, presented toxemic symptoms resembling those that might be produced by an alkaloidal poison. Ross had previously ascertained that the plasma of persons known to be suffering from carcinoma did not comparatively shorten the lives of the leucocytes of healthy persons, in contradistinction to the effects produced by the plasma of persons suffering from several infective diseases—this fact indicating that cancer is not an infective disease. The authors determined to ascertain whether the plasma of cancer patients contained any excitant, pathologic in character for the leucocytes of healthy persons. A large number of previous examinations had shown that leucocytes mixed with the citrated plasma of healthy persons never displayed exaggerated movements. The mixture of the citrated plasma of the cancer patient's blood with one-eighth of its volume of the blood of a healthy person showed the remarkable movements, which were more marked than those seen when the artificial atropin excitant was used. It seemed, therefore, that there was actually a pathologic excitant in the blood of this cancer patient. Nine other cancer cases consequently were similarly investigated, the results corresponding in every way. The authors therefore consider that in cancer cases there may be present some substance resembling an alkaloid in its action, which, in the presence of an alkaline plasma, excites the ameboid movements of healthy leucocytes. They further point out that methylene blue is a coal-tar derivative, and that cancer is common in coal-tar workers. They suggest that this reaction, if confirmed by further investigation may prove useful in the differential diagnosis of cancer.

19. **Pneumonia.**—Crowly reports three cases, and refers to six others, of pneumonia, in which resolution in a surprisingly short time was effected by Ewart's treatment. (*Lancet*, Jan. 21, 1905, abstracted in THE JOURNAL, Feb. 18, 1905, p. 583.) In Crowly's practice an initial dose of calomel was followed by four-hourly doses of a mixture containing potassium iodid, 4 grains; potassium citrate, 10 grains; ammonium citrate, 8 ounces. The dietary was milk and water mixed, when it agreed, otherwise whey, and plenty of cold water to drink when the patient desired. A little brandy was necessary in only one case.

21. **Mumps.**—In summarizing his article Sharp emphasizes the following points:

1. Mumps is not a trifling affection.
2. The comparative frequency with which the pancreas is affected.
3. The suddenness with which abdominal symptoms may appear and the equal rapidity with which evidently serious symptoms pass away.
4. The area occupied by the swelling and tenderness in abdominal cases—namely, the epigastrium and left hypochondrium—that is the area occupied by the pancreas.
5. The comparatively slow pulse and low temperature (these may help one in distinguishing it from peritonitis, etc.).
6. The long period elapsing between the parotiditis and the vulvitis and the onset of pancreatitis in some of the cases (poison retained in the tissues).
7. Pancreatitis may be the first manifestation of mumps.
8. The possibility of pancreatitis replacing parotiditis in mumps.
9. Mumps may exist in a patient without affection of any gland so far as one can see.
10. Acute parotiditis is not a synonym of mumps, for mumps may be present without any apparent affection of the parotid gland.

Medical Press and Circular, London

January 13

22 Pneumonia in the Aged. Prof. R. Rimbaud.
23 How Much Proteid Does the Body Require? A. Haig.
24 *Intermenstrual Pain. J. S. Sheill.
25 Diagnosis and Treatment of Pneumonia in Children. G. A. Sutherland.

24. **Intermenstrual Pain.**—Sheill considers intermenstrual pain to be the result of the physiologic turgidity of the

ovaries, or of an ovary, due to circulatory changes. The reason that all ovulating women are not martyrs thereto is because patients are not alike in regard to their blood and blood vessels. Treatment will turn in the direction of checking excessive, or rectifying abnormal, local or general circulatory phenomena. In this connection, the salts of manganese are beneficial, this drug influencing the blood vessels. If chlorosis or other blood affections be present, iron may be required. Sheill recommends potassium permanganate pills in two-grain doses after each meal, the course of treatment extending from four to eight months, with slight remissions should stomach irritation supervene.

Clinical Journal, London

January 13

26 Chronic Pneumonia. J. Fawcett.
27 Villous Disease of Bladder. J. Bland-Sutton.
28 Diagnosis and Treatment of Sciatica. W. Harris.

Journal of Tropical Medicine and Hygiene, London

January 1

29 What Is "Schistosoma Mansoni?" L. W. Sambon.

Practitioner, London

January

30 *Complications of Scarlet Fever. W. Hunter.
31 *The Heart in Scarlet Fever and Diphtheria. Sir J. F. H. Broadbent.
32 Renal Complications of Scarlet Fever and Diphtheria. N. Tirard.
33 Ocular Complications of Scarlet Fever and Diphtheria. J. H. Parsons.
34 Ear Complications of Scarlet Fever and Diphtheria. M. Yearsley.
35 Diagnosis of Scarlet Fever and Diphtheria. E. W. Goodall.
36 *Idem. H. E. Cuff.
37 Differential Diagnosis of Scarlet Fever. J. E. Beggs.
38 *Differential Diagnosis Between Rashes of Scarlatina, Diphtheria and Other Skin Eruptions. A. Whitfield.
39 The Convalescent Stage of Diphtheria. F. F. Caiger.
40 *Treatment of Scarlet Fever. A. K. Gordon.
41 Treatment of Diphtheria. C. B. Ker.
42 Diphtheritic Paralysis. J. D. Rolleston.
43 Tracheotomy. F. M. Turner.
44 Bacteriology of Scarlet Fever. M. H. Gordon.
45 Bacteriology of Diphtheria. R. T. Hewlett.
46 Antistreptococcus Serum in Scarlet Fever and Diphtheria. M. Young.
47 Scarlet Fever and Diphtheria from the Public Health Point of View. J. T. C. Nash.

30. **Complications of Scarlet Fever.**—Hunter divides the complications of scarlet fever into two groups as follows: 1. Those connected with the scarlatinal infection itself which are local in character, and are placed by the author in the following order in which he is accustomed to watch for them and to attach importance to them, namely, secondary angina, secondary adenitis, cellulitis, glandular suppuration, rhinitis and otitis. 2. Those connected with the septic infection with which scarlet fever is so often associated and by which in an altogether special degree it is so frequently aggravated; these are general in character, namely, albuminuria, nephritis, and rheumatism. The author gives the data for four years regarding these complications at the London Fever Hospital, which bring out two facts of great practical importance, viz., that while the general complications—albuminuria, nephritis, rheumatism and relapses—have from year to year remained fairly uniform in their incidence, the local complications, which more than any other determine the severity of the disease and are responsible for its chief fatal complications, such as septicemia, have steadily and uniformly diminished. This diminution Hunter attributes to certain stringent measures of antisepsis, namely, the increasing care taken to remove, as far as possible, immediately on admission, every trace of pre-existing septic infection around the patient's gums and teeth, and the keeping of it absent by daily swabbing with a 1 to 40 solution of carbolic acid throughout the early course of the disease. In regard to the second group, the two factors to which Hunter attaches chief importance in relation to nephritis are (1) exposure to sudden variations in temperature, and (2) allowing the patient to get up too soon. He now keeps every patient, however mild the case, in bed for three weeks.

31. **The Heart in Scarlet Fever and Diphtheria.**—Broadbent considers the incidence of endocarditis in scarlet fever apt to be overrated. Pericarditis is even less common. The presence of a systolic mitral murmur must not necessarily be taken as an indication of endocarditis. The effects of the scarlet fever toxin on the myocardium are similar to those of rheumatism. The most striking feature about the physical signs is the acceleration of the pulse out of all proportion to the severity of the fever, and beyond accounting for by dilatation of the heart, or explicable as being due to myocarditis. Broadbent thinks that we must attribute it to some disturbance of the nervous mechanism of the heart. Possibly the scarlet fever toxin has a special affinity for the special affinity of the vagus, inducing a peripheral neuritis or otherwise interfering with its inhibitory mechanism. The prognosis, apart from endocarditis or pericarditis, as regards cardiac complications, is usually favorable, and there is practically no risk of syncope, or sudden death, as happens in diphtheria. No special treatment is called for as a rule. In regard to diphtheria, the condition of the cardiac muscle alone does not appear to afford an adequate explanation for the danger of cardiac syncope, which is better accounted for by peripheral neuritis affecting the vagus, bearing in mind also that the heart muscle is damaged by the diphtheria toxin, and its tonicity and contractility are impaired. We thus expect a variety of disorders of rhythm. Tachycardia, approximation of the first and second sounds, spacing of the sounds, shortening and weakness of the first sound, and the "*bruit de galop*" are danger signals of the most grave order. Irregularity of pulse and intermissions are also of serious significance. Vomiting in the later stages is always a grave symptom. Endocarditis and pericarditis are rarely encountered. Prolonged and absolute rest in bed is essential when heart complications threaten in diphtheria, and small digestible meals should be given. Brandy and strychnin in suitable doses should be kept in reserve. Digitalis is of doubtful service.

36. **Diagnosis of Scarlet Fever and Diphtheria.**—Cuff says that if the patient is not seen till nearly the end of the first week, a diagnosis of scarlet fever is justifiable if any two of the following symptooms are present: The remains of a punctate erythema on the upper and inner aspect of the thighs; a peeled tongue; scarlatinal synovitis; infraclavicular pinhole desquamation. He states that there is a form of diphtheria which does not receive the attention it deserves, viz., fibrinous rhinitis. Clinically, this condition appears to give rise to no symptoms of ill health, and is recognized only by the small patch of glistening white membrane on the septum. For its detection the nose should be carefully dried, and light should be thrown into it by a mirror having a central aperture. Virulent diphtheria bacilli are always obtained in cultures made from these patches. The importance of fibrinous rhinitis lies in the fact that it may be the cause of severe faucial diphtheria in others, while the individual affected by it is not suspected of being the source of infection. It is an extremely mild form of primary nasal diphtheria, and in its course offers a strong contrast to those cases of nasopharyngeal diphtheria, in which the involvement of the nasal fossæ adds so greatly to the gravity of the illness.

38. **The Differential Diagnosis of Rashes.**—Whitfield offers the following provisional classification:

1. Eruptions occurring in infectious diseases other than the well-known eruptive fevers: Erythema of diphtheria; erythema of influenza; and erythema infectiosum ("scarlatinoid" of some writers).
2. Eruption of sepsis and other infective processes; erythema after operation, confinement or trauma (surgical scarlatina); erythema accompanying tonsillitis, erythema accompanying gonorrhea.
3. Eruptions from use of drugs, etc. (these are innumerable and only a few of the more important are noticed): erythema from enemata, antitoxic serum, belladonna, quinin, mercury, salicylic compounds, and veronal.
4. Eruptions of unknown cause: erythema scarlatiniforme; erythema scarlatiniforme recidivans.

With regard to the skin eruption in scarlatina he lays stress on the following points: 1. The rash invariably appears on the root of the neck. 2. When not absolutely universal, the edge of the eruption gradually fades off into the normal skin. The tip of the nose and the circumoral region are never affected. 3. The follicles may be lightly erected, but there is no true papule formation; on the other hand, the early eruption shows that the follicles are the chief seat of congestion. 4. A yellowish stain appears when the hyperemia

is dispelled by pressure, and browning of the flexures of the elbows is almost invariably present. 5. The backs of the hands and the sides of the fingers are generally affected when the rash is fully out.

40. **Treatment of Scarlet Fever.**—Gordon discusses the treatment in uncomplicated cases of average severity, toxic cases (serotherapy), septic cases (local treatment), complications, and convalescence. The most efficient remedy for pain is packing the neck externally with ice bags. Lozenges of any description should not be given, for they cause swallowing of septic faucial secretion. To diminish absorption of the toxins from the fauces, Gordon uses a douche of warm water only, which may be rendered faintly alkaline with sodium bicarbonate and flavored with thymol; but flushing, not disinfection, is its object. The patient should lie on the stomach with the head projecting over the edge of the bed, the forehead supported by one hand of the nurse. At least two pints should be used for each irrigation. Gentle swabbing with a solution of borax is sometimes useful in adults, but the application of germicidal solutions should not be used, and neither the spray nor the paint brush has any legitimate place in the treatment. The nurse should wear rubber gloves when engaged in the treatment of the throat. A separate nozzle should be used for each patient. In toxic cases he discusses the use of serum, which should be polyvalent, sterile, and not more than six months old. From 50 to 100 c.c. should be given, and he has never seen any harm result therefrom. In septic cases, germicides should be used in as concentrated a form as possible, in small quantity, and should be applied with a swab. The douche also should be constantly used as before recommended. It is not advisable to incise enlarged and tender cervical glands unless definite evidence of fluctuation is obtained, so long as the skin over them is not affected. In septic, as distinguished from toxic cases, streptococcus serum should be avoided. Alcohol in Gordon's experience is usually both unnecessary and harmful in septic cases.

Glasgow Medical Journal

January

48 Problems Connected with Diseases of the Prostate. C. S. Wallace.
49 Pasteur. J. W. Mathie.
50 Pathology and Treatment of Extrauterine Pregnancy. S. J. M. Cameron.

Journal of Laryngology, Rhinology and Otology, London

January

51 Acute Middle-Ear Suppuration and Mastoiditis, with Some Unusual Symptoms. J. S. Fraser.
52 Cap for Dressing Mastoid Cases. J. S. Fraser.

Archives des Maladies du Cœur, Paris

December, 1, No. 12, pp. 673-748

53 Study of the Electrocardiogram in Man in Normal and Pathologic Conditions. M. Mendelssohn.
54 *Mitral Stenosis and Congenital Malformations. (Rétrécissement mitral et malformations congénitales.) J. Heitz and A. Sézary.

54. **Mitral Stenosis and Deformities.**—Heitz and Sézary relate some cases which show the necessity for looking for congenital malformations when there is no other apparent cause to explain a cardiac affection. One patient, a man of 48, had hypertrophy of the left side throughout, with pure mitral stenosis. They were able to find only one case on record resembling this. In another case pure mitral stenosis was found in a young man with signs of infantilism and a few slight congenital malformations. In several cases on record, malformation of the fingers or sternum or asymmetry of the skull have been noted, as also dwarf growth, harelip or other deformity. It is probable that the mitral lesion was induced by the same cause responsible for the various deformities. In some cases this was known to be syphilis and in a few tuberculosis or alcoholism. There was probably some inflammation in the mitral valve entailing the stenosis.

Presse Médicale, Paris

January 2, XVII, No. 1, pp. 1-8.

55 Hemorrhagic Complications of Appendicitis. A. Broca and P. E. Weil.
56 Anesthesia of the Teeth. (Procédés d'anesthésie de la pulpe dentaire.) G. Mahé.

January 8, No. 2, pp. 9-16

57 Experimental and Spontaneous Atheroma. M. Lucien and J. Parisot.
58 Circumcision of New-Born Infants. (Circumcision chez le nouveau-né.) A. Schwab.
59 *Diagnosis of Tuberculosis by the Complement Fixation Method. A. Marmorek.

59. **Diagnosis of Tuberculosis by Complement Fixation Test.**—Marmorek remarks that the tuberculin diagnostic reactions indicate the presence of tubercle bacilli, but give no hint as to the relations between the bacilli and the organism, whether they are latent or active. It is impossible to tell from these reactions in doubtful cases whether the symptoms are due to the tuberculosis or to some other cause in an individual who is a carrier of latent tubercle bacilli. Marmorek thinks that much more important information can be derived from examination of the toxin generated by the tubercle bacilli. This toxin is not tuberculin, he says. Its presence can be determined by the hemolytic test in the serum or urine by adding serum from a horse immunized against tuberculosis. The horse serum contains the necessary complement when fresh, but if it stands a few days the complement disappears and more must be added, possibly in fresh guinea-pig serum. By comparison with a color scale, the fixation of the toxin-antitoxin-complement is readily recognized by the presence or absence of hemolysis when blood is added. Total hemolysis indicates the complete absence of the tuberculous toxin in the general circulation. He has examined the serum of 306 persons and the urine of 294 others, a total of 600, and the results encourage him to proclaim this method of diagnosis as a reliable means of determining the presence of an active tuberculous process in the organism. The findings conflicted with the clinical diagnosis in only 5 per cent. of the 600 cases, positive findings being obtained in a few instances in which nothing else suggested tuberculosis. In a few cases the findings in the serum conflicted with those of the urine in an inexplicable way; in one case of this kind there was cystitis.

Revue de Chirurgie, Paris

January, XXIX, No. 1, pp. 1-227

60 *Inflammatory Tuberculosis. A. Poncet and R. Leriche.
61 *Perinephritis Consecutive to Nephrectomy. F. Legueu.
62 *Treatment of Muscular Atrophy by the Method of Progressive Resistance. Rochard and P. De Champtassin.

60. **Inflammatory Tuberculosis.**—Poncet and Leriche here present their entire theory of the tuberculous origin of a number of processes in bones, joints or muscles hitherto ascribed to other origins. They answer the objections that have been raised, and show how keloid, false inflammatory tumors of the stomach, intestine and breast and inflammatory infiltrations and scleroses, localized or diffuse, may be the work of toxins generated or left by tubercle bacilli. By serodiagnosis it is often possible to reveal the latent bacillary infection. The inefficacy of the salicylates is another argument in favor of the assumption of the tuberculous origin of this form of rheumatism. They conclude their communication by saying that "to look around one is to become convinced of the existence of inflammatory tuberculosis."

61. **Postoperative Perinephritis.**—Legueu reports a case of phlegmonous perinephritis five years after nephrectomy. An exploratory operation revealed a large knot of silk as the cause of the suppuration. He declares that it is wrong to ligate the pedicle of the kidney with silk. In another case a lumbar fistula developed ten years after the nephrectomy, and fragments of the kidney pelvis left behind at the operation were evidently responsible for the fistula. In a second similar case recovery was not complete until the remaining scraps of kidney and the ureter had been entirely removed. It is extremely difficult in such cases to discover all the fragments of kidney tissue left behind, and even the ureter is not always easily found. The tuberculous cases are most liable to trouble from fistula, and he urges more extensive removal of the fat surrounding the kidney even when it appears perfectly healthy to the eye. This resection of the fat scarcely prolongs the operation, while it has a remarkable effect in obviating postoperative complications.

62. **Treatment of Atrophy of the Muscles.**—Rochard and De Champtassin proclaim the value of treatment of atrophy of a

muscle by utilizing osmosis, that is, aiming to restore the osmotic conditions in the muscular fiber, such as are necessary for the dynamic action of the muscle in its normal task. To have the restoration perfect, the muscle should not only be called on for its normal physiologic work, but for the greatest amount of work of which it is capable. The muscle should be urged to voluntary contractions, then to contractions against resistance, then to contractions against constant resistance during each effort, then with stronger contractions with increasing resistance. Swedish movements are based on the "trophic theory," not on the theory of osmosis, and thus the method differs essentially from the present method of progression of resistance. They have devised two appliances for exercises with heavy weights, which allow careful graduation of the resistance, and estimation of the effort put forth. The results realized to date sustain their assertions, they say, in regard to the prompt cure by a brief course of this treatment and its value in prophylaxis.

Semaine Médicale, Paris

January 13, XXIX, No. 2, pp. 13-24

63 *Estimation of Pancreatic Secretion by Amount of Amylopsin in the Stools. E. Enriquez, L. Ambard and M. E. Binet.

63. **Test of Pancreatic Functioning by Amount of Amylopsi in the Stools.**—Enriquez describes a method by which it is possible to measure the amount of amylase in the feces and thus to obtain insight into the functioning of the pancreas. Its three ferments, lipase, trypsin and amylopsin, if regained totally from the feces, would throw light on the functioning of the organ, but it is difficult to estimate the proportion of the first two in the stools, while dosage of the amylopsin is comparatively simple and easy. Leo announced some time ago that amylopsin is more abundant in diarrheic stools, and the experiences related confirm this. Research on 150 individuals resulted in the working out of the following technic to obtain the maximum of the pancreatic amylase in the stools. Trypsin does not destroy ferments in contact with it if they are mixed with albumin. Consequently the first step is ingestion of a pint and a half of milk followed in an hour with a good purgative, and, an hour after the purgative, 250 c.c. of an alkaline mineral water. To prevent destruction of the amylopsin by microbes and trypsin, a piece of ice is placed in the vessel for the dejecta. The solid stool is removed and the fluid diluted to 20 liters. The unit adopted is the sugar-gram-hour, that is, the quantity of sugar that could be formed in one hour by the total amount of the ferment. For instance, if 1 c.c. produces 0.102 gm. in one hour, the 20,000 c.c. of the total 20 liters would produce 2,040 gm. of sugar. In such case, the total feces represent 2,040 amylopsin units. A 1 per cent. solution of starch is acidified with hydrochloric acid to the optimum reaction and 1 c.c. of the diluted feces is mixed with 50 c.c. of the starch paste and kept in the incubator at 39 C. for half an hour. The proportion of amylopsin is larger the more rapidly the purgative acts, the ferment evidently being lost during long passage through the intestine. Most of the tests were on healthy persons, but in two cancer patients there was almost complete absence of amylopsin. He is convinced that when the technic is further perfected it will afford most useful insight into the functioning of the pancreas.

Beiträge zur klinischen Chirurgie, Tübingen

December, LXI, No. 1, pp. 1-299

64 Comparative Research on Transplantation of Tumors and Normal Tissues. (Vergleichende Untersuchungen über die Transplantation von Geschwülsten und von normalen Geweben.) G. Schöne.
65 Gaseous Gangrene. Case of Brain Abscess Caused Exclusively by Anaërobie Bacteria. (Zur Kenntniss der Gasgangrän und über einen Fall von Hirnabscess, ausschliesslich bedingt durch anaërobe Bakterien.) M. Heyde.
66 *Treatment of Suppurative Processes with Antiferment Serum and Its Theoretical Bases. (Behandlung eitriger Processe mit Antifermentserum.) H. Kolaczek.
67 Chondrolipoma in Muscle. Id.
68 Typical Fracture of Tibia in Talocrural Joint. Meissner.
69 *Ultimate Results in Treatment of Non-Malignant Stomach Affections. (Dauererfolge in der operativen Behandlung der gutartigen Magen-Erkrankungen.) J. M. Mayer.
70 *Mammary Carcinoma and Its Operative Permanent Cure. Höring.
71 *Diagnosis, Treatment and Prognosis of Abdominal Contusions. Importance of Intraperitoneal Hemorrhage. (Verletzungen der Leber, Milz, Niere, des Pankreas und des Darms.) W. Noetzel.
72 *Primary Carcinoma in the Main Biliary Passages. (Das primäre Carcinom in den Hauptgallengängen.) J. Borelius.
73 Traumatic Rupture of the Esophagus. (Entstehung der Oesophagusrupturen.) G. Petren.
74 *Total Avulsion of the Scalp. (Fälle von Skalplerung.) Id.

66. **Treatment of Suppurative Processes with Antiferment Serum.**—Kolaczek reviews the theoretical bases and practical experiences with the antiferment serum treatment described recently in these columns. He concludes that the antiferment serum not only supplies the ferment which protects against proteolysis, but at the same time it supplies vitally active leucocytes, opsonins, complements and amboceptors, either supplying them from without or attracting them to the spot, and thus summoning the most powerful defenses of the organism.

69. **Operative Treatment of Non-malignant Stomach Affections.**—Mayer reviews the experiences with 57 cases in which the operations were done several years ago and the patients have been re-examined recently. He concludes from this material that the patient must be very cautious after a gastro-enterostomy, and that it must be impressed on him that it does not complete the cure, but merely starts the digestive tract on the road to recovery. The patient must expect to be very circumspect in his mode of life continuously thereafter.

70. **Cancer of the Breast.**—Höring reports 200 cases, and in over half the left breast was involved. He was able to obtain information in regard to each of the 200 patients to date, the first complete series of the kind, he thinks, on record. Excellent results were obtained when the tumor was of slow growth and not larger than a plum, the skin still movable. In this group over 80 per cent. of the patients were permanently cured, while less than 30 per cent. were cured in the group in which the tumor had begun to grow, possibly after a stationary period, and the skin was adherent and several glands in the axilla were palpable. This is the condition in which the patients generally apply for relief. He noted a special malignancy when there was a family history of cancer.

71. **Contusions of the Abdomen.**—Noetzel reports 13 cases in detail, remarking that the diagnosis of severe intraperitoneal injuries will always be a difficult matter.

72. **Primary Carcinoma in Biliary Tract.**—Borelius reports fourteen Swedish cases, including four from his own experience, and then reviews the diagnosis. In no case on record has there been a survival of more than three years.

74. **Total Avulsion of the Scalp.**—Petren has had occasion to treat two women whose hair was caught in machinery and the entire scalp pulled off, and he has collected 24 similar cases from the literature. One of his patients died from the injuries, but the other recovered and the head healed with a number of Thiersch flaps.

Berliner klinische Wochenschrift

January 4, XLVI, No. 1, pp. 1-44

75 Treatment of Epileptic Psychoses. E. Siemerling.
76 Acute Fibrous Obliterating Bronchitis. A. Fraenkel.
77 Treatment of Placenta Prævia. (Klinische und private Geburtshilfe.) W. Bokelmann.
78 Perception of Light and Colors. (Wahrnehmung des Lichtes und der Farben.) F. W. Edridge-Green.
79 Appendicitic Pseudomyxoma of the Peritoneum. (Pseudomyxoma peritonei ex processu vermiformi.) A. Neumann.
80 Treatment of Typhoid with Collargol Enemas. T. Mironescu.
81 Campaign against Scoliosis. (Kampf gegen die Skoliose.) R. Bosse.

Correspondenz-Blatt für Schweizer Aerzte, Basle

January 1, XXXIX, No. 1, pp. 1-32

82 Management of Childbirth with Contracted Pelvis. (Ueber beckenerweiternde Operationen und Behandlung der Geburten bei Beckenverengerungen überhaupt.) P. Müller.
83 Three Cases of Meat Poisoning. (Botulismus.) Blattmann.

Deutsches Archiv für klinische Medizin

XCV, Nos. 1-2, pp. 1-210. Last indexed Jan. 30, p. 423

84 *Diabetes Insipidus. W. Ebstein.
85 Early Detection of Pulmonary Tuberculosis with the Roentgen Rays. (Frühzeitige Erkennung der Lungentuberkulose mit Hilfe der Röntgenstrahlen.) H. Rieder.
86 Research on Metabolism in Typhoid Patients with Especial Regard to Respiratory Quotient. (Stoffwechseluntersuchungen an Typhuskranken.) F. Rolly and P. Hörnig.
87 Biologic Experiments on Precipitation of Egg Albumin and Serum with Iron. (Biologische Versuche über Fällungen von Albumin ovi und Seris mit Eisen.) F. Ditthorn and W. Schultz.

88 Influence of Muscular Work and External Temperature on Degree of Alimentary Glycosuria. (Einfluss von Muskelarbeit und Aussentemperatur auf das Mass der alimentären Glykosurie.) J. Grober.
89 Metabolism in Epileptics. (Stoffwechseluntersuchungen an Epileptikern.) E. Rohde.

84. **Diabetes Insipidus.**—Ebstein has long been studying the relations between diabetes and affections of the nervous system and syphilis. He remarks that both forms of diabetes must be closely related, as one may be transformed into the other. Severe material changes in the kidneys may simulate diabetes insipidus. Neuffer asserts that it never develops in women over 50, and elderly people with symptoms of diabetes insipidus coming on gradually are probably affected with contracted kidney, even in the absence of albuminuria and tube casts. It is evident, Ebstein thinks, that diabetes insipidus develops on a nervous basis, either from material injury of the nervous system, especially of the medulla oblongata, or from functional disturbances of the nervous system, such as are observed in general neuroses. The share of syphilis in its production is probably from the injury to the nervous system by the syphilis poison. He relates cases in which the use of salt induced or aggravated polydipsia and polyuria, while restriction to a salt-free diet benefited in many cases. One patient was thus able to keep the affection permanently within bounds, and Ebstein warns that the salt-free diet should always be given a trial rather than an attempt made to restrict the intake of fluids, which is by no means a harmless measure. The amount of fluid allowed should not be reduced except with the utmost caution. He gives the details of 17 cases from the literature in which syphilis was evidently responsible for the diabetes insipidus, and in which a cure or notable improvement followed specific treatment. In some other cases in his own and others' experience the antisyphilitic treatment had no influence on the course of the diabetes. The youngest patient was 20 and the oldest 54 in the various cases. He also summarizes the autopsy reports of 6 cases of diabetes insipidus in consequence of syphilis. Changes in the medulla oblongata were noticeable in 50 per cent., and it seems possible that the localization of the syphilitic process in certain parts of the medulla may be the connecting link. In 5 of the 6 cases there were also syphilitic lesions in the liver.

Deutsche medizinische Wochenschrift, Berlin

January 7, XXXV, No. 1, pp. 1-48

90 *Clinical Importance of the Electrocardiogram. H. E. Hering
91 Diagnosis of Typhus. (Zur Kenntniss und Diagnose des Fleckfiebers.) C. Bäumler.
92 Psychiatry and Social Medicine. A. Pick.
93 *Etiologic Therapy of Syphilis. L. Spitzer.
94 Treatment of Chorea. G. Köster.
95 Diagnosis of Scrap of Iron in Eye. (Fall von minimalem Eisensplitter in der Linse nebst Bemerkungen über die Diagnose intraocularer Eisensplitter.) A. Vossius.
96 Suction Treatment of Nasal Affections. (Saugbehandlung der Nase.) Walb.
97 Cancer Questions. (Diskussionsbemerkungen über einige Geschwulstfragen.) D. v. Hansemann.

90. **Clinical Importance of the Electrocardiogram.**—Hering comments on the important information to be derived from this method of investigation which allows deeper insight into the analysis of the heart action than any other method, and he advises that all large clinics should be equipped for the purpose. It is important to record the position of the patient, and it would be better to conform to some uniform technic for comparison of the tracings.

93. **Etiologic Therapy of Syphilis.**—Spitzer has treated twenty syphilities with an aqueous extract of the specific sclerosis. The technic followed was that of the ordinary Pasteur treatment of hydrophobia. Eleven of the patients developed the usual general manifestations, but in seven, under observation for from eighteen months to four years, no trace of secondary phenomena could be detected. One of these patients contracted a new infection two and one-half years after the treatment.

Deutsche Zeitschrift für Chirurgie, Leipsic

December, XCVI, Nos. 5-6, pp. 321-617

98 Isolated Fractures of Transverse Processes of Lumbar Spine. P. Haglund.
99 Tumor of Carotid Gland. C. Lieinl.
100 Surgery of Billiary Tract. (Chirurgie der Leber und der Gallenwege.) A. Jenckel.
101 Origin of Concretions in Joints. (Entstehung der Gelenkmäuse.) Veit.
102 Treatment of Fistula between Intestine and Bladder by Exclusion of Former. (Zur Therapie der Darmblasenfistel mittels Darmausschaltung.) W. Sachs.
103 Operations on Biliary Tract. (Operationen an den Gallenwegen.) K. Mizokuchi.
104 Transplantation of Thyroid Tissue into Pocket in Bone Marrow. (Neue Methode der Transplantation des Schilddrüsengewebes.) C. Sermann.
105 Traumatic Hernia of Fat in Lumbar Region. (Lendenhernien. Adipocele im Rhombus Lesshaft.) E. Ruppanner.
106 Diagnosis and Treatment of Congenital Dislocation of the Hip. (Angeborene Hüftverrenkung.) Dreesmann.
107 The So-called Retrograde Incarceration of the Intestine. M. Takayasu.
108 Bacteriology of Acute and Chronic Appendicitis with Special Regard to the Peritoneal Effusion. E. Franke.
109 Experimental, Critical Study of Death in Ileus. (Ileustod.) W. Braun and H. Boruttau.
110 Deformity of Shoulder, Corresponding to Coxa vara, Observed in Cretins. (Humerus varus.) E. Bircher.

Medizinische Klinik, Berlin

January 3, V, No. 1, pp. 1-40

111 *Forms of Obesity. (Fettsucht.) C. von Noorden.
112 Management of the Puerperium. (Erfahrungen mit moderner Wochenpflege.) E. Opitz.
113 Differential Diagnosis of Cerebellar Tumors. (Kleinhirntumor.) T. Ziehen.
114 Diagnostic Importance of Basophile Spots in Red Corpuscles. (Diagnostiche Bedeutung der punktierten Erythrozyten im Blute.) K. Brandenburg.
115 *Treatment of Sciatica with Injection of Salt Solution. (Behandlung der Ischialgie mit Langescher Kochsalzinjektion.) J. Flesch.
116 Action of Catalase and Oxidase on Normal and Cancerous Liver Tissue. (Vergleichende Untersuchungen über die Wirkung der Katalase und der Oxydase in der normalen und der karzinomatösen Leber.) F. Blumenthal and B. Brahn.
117 Alimentary Disturbances in Infants, and Their Treatment. (Ernährungsstörungen im Säuglingsalter und ihre Behandlung.) E. Feer.

111. **Forms of Obesity.**—von Noorden summarizes his remarks in the statement that there are two well-defined forms of obesity, that due to overfeeding in proportion to exercise and that due to the influence of the thyroid. In the first form there is normal power of oxidation, but the disproportion between the intake and outgo causes obesity, either from excessive eating or lack of exercise or combination of both. In the thyrogenous form the power of oxidation is reduced, although the relation between intake and exercise may correspond to normal. The thyroid influence may be primary or secondary, hypofunctioning of the thyroid being the result of distant action from other organs, the pancreas, the ovaries, hypophysis, suprarenals or thymus. This latter form has been very little studied to date. This classification has more than theoretic importance, as it is a guide to treatment. The first form requires the cardinal rule for dietetic antifat treatment: reduction of the intake of calories with ample supply of albumin. If dietetic measures fail, the thyroid functioning should be suspected and a systematic course of thyroid treatment instituted under constant supervision. He regards this thyroid treatment as much less taxing on the patient than ordinary antifat dietetic measures, especially "starvation courses." The patient can be allowed to eat freely, especially meat and albumin, with no dietetic restrictions, and this is often a great relief for patients who for years have lived in the strait-jacket of antifat diet. The thyroid treatment is directly contraindicated in the first form of obesity (*Mastfettsucht*), although both forms may be combined in some cases. In certain cases of this form of obesity dietetic measures prove useless or dangerous, and the only thing is to accustom the patient gradually to greater transformation of energy, as by muscular work or withdrawal of warmth. Restriction of the diet might be followed by collapse in these cases. In the thyrogenous cases these measures and dietetic restrictions are liable to produce no effect except debilitation of the patients.

115. **Treatment of Sciatica with Saline Injections.**—Flesch reports eight cases of sciatica in which he applied Lange's method of local injection of salt solution under pressure. Lange himself has reported 60 per cent. of cures, and Flesch also found that the affection was refractory in some of his cases, although the effects were ideal in others. According to his experience, the loss of the Achilles tendon reflex on the affected side is a sign that the Lange injections will prove useful. Without the loss of this reflex, none of the other signs, tender points or Lasègue sign is decisive. The presence of

the knee-jerk excludes tabetic sciatica. Excellent results can be confidently anticipated in suitable cases. (See abstract 90 in THE JOURNAL, Jan. 23, 1909, page 336.)

Münchener medizinische Wochenschrift

December 29, LV, No. 52, pp. 2699-2714

118 Inflammation of Bursa of Shoulder with Lime Deposit. (Die mit Kalkablagerung einhergehende Entzündung der Schulterschleimbeutel.) Bergemann and A. Stieda.
119 Tuberculosis as Children's Disease. (Tuberkulose als Kinderkrankheit.) F. Hamburger.
120 Increased Euphoria and Activity as Initial Symptom of Infections. Bleuler.
121 The Faradic Interval. Loewenthal.
122 Malignancy of Ovarian Cystoma. Lunckenbein.

January 5, LVI, No. 1, pp. 1-56

123 *Opening up New Sources for Production of Antibodies. (Erschliessung ergiebiger Quellen von Schutzstoffen.) L. Heim.
124 Hemolysis of Streptococci. Lüdke and Polano.
125 Benzin Poisoning. (Benzinvergiftung.) H. Wichern.
126 *Intravenous Arsenic-Tuberculin Treatment. F. Mendel.
127 *Surgical Treatment of Exophthalmic Goiter. (Chirurgische Behandlung des Morbus Basedowii.) Krecke.
128 "Prick Reaction" in Diagnosis of Tuberculosis in Children. (Stichreaktion bei der Diagnose kindlicher Tuberkulose.) F. Hamburger.
129 Macroscopic Asthma Spirals in Sputum. Riehl.
130 *Ferment Treatment of Tuberculous Abscesses. T. Goldenberg.
131 *Phonendoskiascope. R. Schmincke.

123. **Opening Up New Sources for Antibodies.**—Heim comments on the wasteful way in which the immune sera have been obtained hitherto, the assumption being practically universal that the immune substances were contained in the juices alone and the tissue residue being generally discarded as useless. His experiments have shown that the tissues abound in the specific antibodies in animals immunized against the pneumococcus. The muscle substance is particularly rich in these protecting bodies. He grinds the muscle tissue and organs in a mortar, then mixes with water, 1/10, and with a little broth or peptone water. After five days of fermentation the filtrate is condensed in a vacuum and it is found rich in immune bodies, being capable of protecting animals against otherwise fatal inoculations.

126. **Combined Intravenous Tuberculin-Arsenic Treatment of Tuberculosis.**—Mendel expatiates on the necessity for supplementing tuberculin treatment with some drug which will promote the vital energy of the cells by favoring nutrition and thus increasing the protecting and resisting power of the cells. The combination has another advantage in that it utilizes the influence of the tuberculin in inducing an inflammatory reaction in the vicinity of the tuberculous focus. This local inflammatory reaction attracts the injected drug to the spot, so that the arsenic—if this drug be selected, which he strongly advises—accumulates in and around the tuberculous focus, stimulating the tissues at this point to extreme defensive and resisting action, and thus raising an effectual wall around the tuberculous focus, preventing its further spread. He has long been an advocate of the intravenous route for medication, and declares that it is particularly useful for injection of tuberculin, as many experiences have confirmed the surprising way in which minimal doses of tuberculin injected into a vein stimulate the production of the protecting substances in the organism infected with tuberculosis. The tuberculin by its exciting influence on the local focus and the resulting inflammatory reaction in the vicinity, acts like the express wagon which carries the package to the point where it is needed and leaves it there, while the arsenic stimulates the local curative action and at the same time has a general tonic effect. The combined tuberculin-arsenic treatment thus fulfils all the conditions which Ehrlich demands for an ideal chemotherapy: the supply of the "distributive substance" (tuberculin), and of a "pharmacophor group" with a specific action (arsenic plus tuberculin). Mendel has been applying this combined intravenous treatment for some time and has been much pleased with the results, not hesitating to declare that it offers the best chances for favorable influencing of the tuberculous process and that it should be introduced as a routine method of treatment in somewhat advanced cases in the sanatoria and also in dispensary treatment of cases in the first or second stage.

127. **Surgical Treatment of Exophthalmic Goiter.**—Krecke reviews his experience at Munich with 160 operations for goiter, including 17 of the exophthalmic form. He remarks that it is amazing to see how the nervous symptoms of the latter form subside after the operation. Within a week the patients are tranquil and sleep better, there is no more tremor and the pulse rate is slower. The mortality in 188 operations for exophthalmic goiter collected from five different clinics has been 9 per cent. His own experience indicates that it is wiser to operate at more than one sitting in the more serious cases or, better yet, to ligate first the afferent arteries. All his patients are delighted with the results of the operation, but the exophthalmos has not entirely subsided in any case; the operation does not seem to influence this. Eleven patients operated on more than two years ago have been in excellent health since. He had one fatality in his series, and he urges earlier resort to surgery and careful examination for a persisting thymus. In case the thymus is found enlarged he advises against operating. His experience has been favorable to general anesthesia. He advises operative intervention when the condition grows worse under internal measures, without further delay.

130. **Ferment Treatment of Tuberculous Abscess.**—Goldenberg does not use the ready-made ferment, but injects a solution of sodium nuclein to induce leucocytosis in the tuberculous abscess. This is supplemented later by Roentgen-ray treatment. His first case was a tuberculous abscess in the soft parts of the thigh, which healed completely in three sittings after it had long resisted ordinary treatment.

131. **Phonendoskiascope.**—Schmincke's combined fluorescent screen and phonendoscope allows the movements of the heart to be inspected at the same time that the heart sounds are heard. The glass is etched in centimeters to measure the extent of the excursions of the heart. The tube for auscultation passes through the center of the glass. By thus seeing and hearing simultaneously the movements of the heart, a number of important points can be learned.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXIII, No. 2, pp. 217-405. Last indexed Dec. 19, p. 2198

132 Participation of Blood-Producing System in Metastasis of Uterine Carcinoma. (Beteiligung des hematopoetischen Systemes an der Metastasierung beim Uteruskarzinom.) H. Offergeld.
133 Management of Childbirth with Contracted Pelvis, and its Transformations. W. Hannes.
134 *Pathogenesis of Eclampsia. F. Ahlfeld.
135 Determination of Opsonins in Puerperal Infection. T. Heynemann and C. Barth.

134. **Renal Basis of Eclampsia.**—Ahlfeld's attention has been called to three special features in eclampsia: its preponderance in primiparæ, the rarity of recurrence, and the far more unfavorable course, both for mother and child, in multiparæ. He has been making a special study of recurring eclampsia as liable to throw light on the etiology, and was able to find in the literature records of 108 cases in which the woman had eclampsia a second time, and has observed three in his own practice. The facts observed show an unmistakable connection between the eclampsia and some kidney affection existing before the pregnancy. Only when eclampsia in the first pregnancy recurs in the second, without abortion in the interim, is it possible that this recurrence may be independent of a chronic kidney affection. As it seems to be established that the eclampsia in multiparæ is connected with insufficiency of the kidneys, this suggests that some functional disturbance in the kidney may also be responsible for it in primiparæ. The eclampsia poison is probably the products of decaying matter which are liable to get into the blood in any pregnancy, but which normally do not accumulate in the maternal body, but are harmlessly eliminated through the kidneys. This poison is not primarily and exclusively responsible for the eclampsia, but rather the functional disturbance in the kidney, partly of a physiologic and mechanic nature, partly pathologic. He summarizes his impressions in the assertion that there are three forms of puerperal eclampsia: the pure typical form which occurs only in primiparæ; the eclamptic-uremic form which occurs in multiparæ or whenever there is chronic insufficiency of the kidneys; and pseudoeclampsia, which really has nothing to do with true puerperal eclampsia, but may occur at childbirth, independent of any kidney affection, from the action of some septic poison or chemical or from a brain affection or as a simple reflex phenomenon. Epileptic or hystero-epileptic convulsions may also simulate eclampsia.

Zentralblatt für Chirurgie, Leipsic

January 2, XXXVI, No. 1, pp. 1-40

136 Successful Treatment of Angioma with Carbon Dioxid Snow. (Behandlung der Angiome mit gefrorener Kohlensäure.) F. Sauerbruch.
137 Drainage of Hepatic Duct. (Zur Hepaticusdrainage.) H. Kehr.
138 Technic for Removable Sutures, especially in Herniotomies. (Zur Technik entfernbarer versenkter Nähte unter besonderer Berücksichtigung der Bassininaht.) Kirstein.

January 9, No. 2, pp. 41-72

139 *Extravesical Suprapubic Prostatectomy. W. J. van Stockum.

139. Extravesical Suprapubic Prostatectomy.—In the case described, the patient was 80 years old, and 12 c.c. of ethyl chlorid were used to induce anesthesia. A soft catheter was introduced into the bladder and a vertical incision was made on the median line from the root of the penis upward. The recti were drawn aside and the upper part of the urethra and prostate were exposed, working down to them with the finger, drawing up the fat tissue and the reflection of the peritoneum on the anterior aspect of the bladder, but no more than was strictly necessary to expose the prostate. The connective tissue on each side of the bladder was not disturbed. A small vertical incision was then made in the capsule over the most prominent portion of the prostate, a little to one side of the median line. Through this small opening in the capsule he was able to scrape out with one or two fingers the entire prostate, the catheter helping to locate it and an assistant's finger in the rectum pushing the gland into constant prominence. The enucleation proceeded as readily as with the Freyer technic and the bleeding was moderate. A large gauze sponge was packed into the wound to prevent hemorrhage later, which is one of the greatest dangers in prostatectomy. The wound was sutured except where the end of the sponge protruded below. Considerable blood escaped into the dressings and through the urethra for a few hours, but then ceased. By the twelfth day healing was complete and the patient was urinating spontaneously. van Stockum regards this technic as progress. In this case he made a buttonhole in the vertex of the bladder to drain the bladder, but thinks that a retention catheter would probably answer the purpose just as well. The neck of the bladder is not stretched as much as with the Freyer technic and the blood does not get into the bladder, consequently there is less danger of the catheter becoming obstructed with blood clots, which often occurs with the Freyer technic.

Zentralblatt für Gynäkologie, Leipsic

January 2, XXXIII, No. 1, pp. 1-40

140 *Sacral Anesthesia. (Ueber sakrale Anästhesie.) W. Stoeckel.
141 *Thrombosis and Allowing Patients to get up Early after Childbirth. (Thrombose und Frühaufstehen im Wochenbett.) F. Fromme.
142 *Frequency of Thrombosis after Gynecologic Operations and Childbirth. (Häufigkeit der Thrombose nach gynäkologischen Operationen und im Wochenbett.) M. Hofmeier.
143 Gallstones in Bladder. (Gallensteine in der Harnblase.) F. Michel.

January 9, No. 2, pp. 41-72

144 Best Fixation Method for Treatment of Immovable Retroversion with Flexion. O. Küstner.
145 Case of Primary Peritoneal Pregnancy. (Fall von primärer Peritonealschwangerschaft.) O. Gröné.

140. Sacral Anesthesia.—Stoeckel has revived Cathelin's method of epidural injections, that is, injection of the anesthetic into the sacral canal below and outside of the dura, thus avoiding all direct contact with the spinal cord. He has found that this is a most excellent means for anesthesia in obstetrics, as it blocks the nerve tracts transmitting the labor pains without noticeable general action. It is thus an obstetric local anesthesia, and he has applied it in 141 childbirths. His patients included 89 primiparæ, and all deliveries were normal, the measure not being tried in any case suggesting possible complications. In 2 cases a second injection was given. In 96 cases the injection was made in the first and the others in the second stage of labor. In 18 cases no effect was apparent; in 12 it was dubious, but in 111 cases a favorable influence was unmistakable. In many cases the musculature of the perineum and of the floor of the pelvis seemed to be much relaxed, which rendered protection of the perineum easier. In 72 cases the pains in the sacral region were entirely or nearly abolished and in 39 cases both the sacral and abdominal pains. In 9 cases there was no pain as the head passed the vulva, and in 16 only very slight pain. In 3 cases the child was delivered with forceps, and in 2 a tear was sutured without the woman feeling it. The injection evidently has a tendency to check the contraction of the uterus when made as labor first begins. In 23 cases the contractions became weaker and less frequent; one woman was given an injection at the first slight pains and labor was suspended. It did not set in again in earnest until four days later. This suggests the possibility that impending abortion or premature delivery might be arrested by the sacral technic. The injections did not seem to have any effect on the labor contractions when once well started. No injurious influence on the child was observed in any instance, and strange to say, no retention of urine during the puerperium. He injected from 3 to 83 c.c., the dose of 33 c.c. being found most effectual. The method also proved successful in dysmenorrhea when the pain was in the back, and he suggests that this sacral injection might give relief in numerous cases of sacral neuralgia accompanying a gynecologic affection. He discusses the mechanism of the injection and gives illustrations of the exact technic. The effects demonstrate that the pain of labor and of menstruation does not originate in the uterus itself.

141. Allowing Women to Get Up Early After Childbirth.—Fromme has not found any lesser frequency of thrombosis when the women are allowed to get up earlier than the customary two or three weeks. He describes a case in which the patient was allowed to sit up in a chair beside the bed for an hour the second day after delivery. The next day there was rise of temperature and the day after streptococci could be cultivated from the lochia. The postmortem findings the tenth day showed thrombosis and embolism but no pyemia. The case illustrates anew the insignificant clinical signs that may be made by even very extensive thrombosis. He thinks it probable that the getting up early hastened the development of the thrombosis, and he warns urgently against it.

142. Frequency of Postoperative Thrombosis.—Hofmeier reviews his experience with 389 operations for myoma, with thrombosis in 6 cases, for which the operation was responsible in only 3 instances. In 10,000 obstetric cases there was thrombosis in 12 but no embolism or fatality. His statistics speak against the assumption that reduction in the proportion of cases of thrombosis is the result of any recent innovation, but that it is rather the natural progress of general asepsis.

Hygiea, Stockholm

October, LXX, No. 10, pp. 899-1058

146 *Diagnosis of Renal Tuberculosis. (Om diagnosen vid njurtuberkulos.) G. Ekehorn.
147 *Continued Experiences with Mercurial Treatment in Form of a Snuff. (Forstatta rön med kvicksilfversnusningskuren.) C. Cronquist.
148 Methods for Determining Outlines of Stomach. (Om metoderna för bestämmande af magsäckens gränser.) T. Fischer

November, No. 11, pp. 1059-1234

149 Case of Diabetes Insipidus Successfully Treated with Subcutaneous Injections of Strychnin. E. Rohde.
150 Auscultation Methods of Determining the Blood Presure and their Practical Value. (Den auskultatoriska blodtrycksbestämningsmetoden.) K. A. E. Fries.

146. Diagnosis of Renal Tuberculosis.—Ekehorn states that he has been able to diagnose tuberculous processes in the kidney by a simple bacteriologic technic. The course of the cases confirmed his diagnosis in every instance. This is particularly noticeable in the cases with negative findings, as none of these patients has shown signs of tuberculosis since. These experiences extend over a number of years, and he commends his technic for general adoption. The urine is drawn with a catheter (by the physician) after disinfection of the region, and the first portion of the urine is thrown away. The remainder is centrifugalized at once and as soon as the sediment is dry, Ziehl's solution of carbol fuchsin is poured on the object glass which is then heated until it steams but not boils. After a few minutes the stain is poured away and the object glass is placed, without rinsing, in a glass containing two parts nitric acid to one part water. The nitric acid solution can be used over and over again. The specimen is kept in the nitric acid for an hour. It is then rinsed and stained

at once with malachite green, 1 part to 20 parts alcohol. The contrast stain is left in contact for one minute or longer and is then entirely rinsed off. The tubercle bacilli are the only ones that stain red, and they show up well on the green background. The vessels used are kept filled with caustic soda in the intervals. One interesting case is described at length in which a bilateral tuberculous epididymitis, with numerous tubercle bacilli in the urine, was accompanied by pains in the left kidney region but tubercle bacilli could not be detected in the urine from the kidneys. The patient recovered completely after removal of the testicles, and there has been no sign of tuberculosis of the urinary apparatus during the year or so since. With care it is possible to obtain the urine without contamination with smegma bacilli from the vicinity.

147. **Experiences with Mercury Given in the Form of Snuff.**—Cronquist has now an experience of 19 cases of syphilis treated with mercury in the form of hydrargyrum cum creta or a finer powder containing 40 per cent. metallic mercury. He orders 4 gm. of the powder inhaled during the day in the form of snuff at four different times, never more than five times. When his instructions are properly carried out, this method of treatment proves powerful and effectual, not only as an adjuvant to other measures, but as the main reliance. He gives the details of his 19 cases to sustain his assertions. He first described this treatment in 1907; his later experiences have confirmed his first favorable impression.

Norsk Magazin for Lægevidenskaben, Christiania

December, LXIX, No. 12, pp. 1121-1200

151 *Treatment of Pulmonary Tuberculosis with Artificial Pneumothorax. K. Thue.
152 *Glycerin Treatment of Pernicious Anemia on Basis of Recent Research. (En kasuistik meddelelse til belysning af de nyere undersøgelser over pernicigs anæmi.) H. J. Vetlesen.

151. **Artificial Pneumothorax in Pulmonary Tuberculosis.**—Thue observed some years ago the case of a young man with tuberculosis in the left lung, under treatment for some months when hydropneumothorax developed on that side and the patient began to improve. For twelve years longer he was in comparative health, doing hard manual labor, when he succumbed to sudden hemorrhage. The left lung was found still compressed with a pneumothorax and the tuberculous process had become entirely obliterated. In this case the natural pneumothorax accomplished the desired result and for the same purpose Thue has made an artificial pneumothorax in eleven cases and Saugman has done it in thirteen. The results as Thue describes them are encouraging, although the treatment was applied in such advanced cases that a cure could not be expected. The details of his eleven cases are given in full. He thinks that the method should be given a trial even in the afebrile cases when the tuberculous process continues a progressive course rebellious to other measures.

152. **Treatment of Pernicious Anemia on New Basis.**—Vetlesen refers to Tallquist's research on anemia from the bothriocephalus in which he found that a hemolytic substance present in the parasite is responsible for the anemia. This hemolytic substance proved to be oleic acid, both its cholesterin and its sodium salt having hemolytic properties. In normal conditions there is not much cholesterin in the blood, but when it reaches a certain concentration the hemolytic action follows. Tallquist suggested administration of calcium to form an insoluble compound with the oleic acid, or of glycerin which unites with the oleic acid to form ordinary olein, the harmless oleate of glyceryl. Vetlesen has been applying the results of these abstract researches in the clinic, and reports a case of progressive pernicious anemia with hemoglobin, 40 per cent., and only 1,110,000 red corpuscles, in which after failure of other measures he gave the patient a tablespoonful of glycerin, with a little lemonade, three times a day. In the course of five months of this glycerin treatment alone the hemoglobin increased to 100 per cent. and the number of reds to 4,400,000, while the patient gained about 25 pounds in weight. Vetlesen continues that the favorable results sometimes observed in pernicious anemia from treatment with bone marrow extract may have been in reality due to the glycerin vehicle.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

YEAR-BOOK OF THE ANGLO-AMERICAN MEDICAL ASSOCIATION OF BERLIN. Annual Report and List of Members for the year closing with the Summer Semester of the University of Berlin, 1908. Including a list of Courses given in Berlin, and other Information. Paper. Pp. 72. Published by the Association. (President, Dr. James H. Honan, Lützowstrasse 78, Berlin, W., Germany.)

DISEASES OF THE DIGESTIVE CANAL. By Paul Cohnheim, Specialist in Diseases of the Stomach and Intestines in Berlin. From the Second German Edition. Edited and Translated by Dudley Fulton, M.D., Lecturer on Medicine, University of Southern California, Los Angeles. Cloth. Pp. 373 with illustrations. Price, $4. Philadelphia: J. B. Lippincott Co.

DISEASES OF THE NOSE, THROAT AND EAR. By Francis R. Packard, M.D., Professor of Diseases of the Nose and Throat in the Philadelphia Polyclinic Hospital and College for Graduates in Medicine. Cloth. Pp. 369, with illustrations. Price, $3.50. Philadelphia: J. B. Lippincott Co.

AMERICAN PRACTICE OF SURGERY. Edited by Joseph D. Bryant, M.D., LL.D., and Albert H. Buck, M.D., of New York City. Complete in Eight Volumes. Vol. V. Cloth. Pp. 965, with illustrations. Price, $7 per volume. New York: William Wood & Co., 1908.

NEW YORK STATE LIBRARY, YEAR-BOOK OF LEGISLATION. Legislation Bulletins 35-36. Vol. 9, 1907. Edited by Frederick D. Bramhall, Legislative Reference Librarian. Cloth. Pp. 599. Price, $1. Albany: University of the State of New York, 1908.

HYGIEA FESTBAND, Utgifvet af Svenska Läkaresällskapet till Minne af dess Hundraåriga Verksamhet den 25 Oktober 1908. Redigeradt af Prof. Dr. Carl Sundberg. In 2 parts. Paper. Stockholm: Isaac Marcus' Boktr.-Aktiebolag.

TRANSACTIONS OF THE FOURTEENTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY, 1908. Cloth. Pp. 548, with illustrations. St. Louis: Published by the Society, 1908.

PROCEEDINGS OF THE AMERICAN SOCIETY FOR PSYCHICAL RESEARCH. Vol. II. December, 1908. Part 3. Paper. Pp. 674. Price, $2.50. New York: Published by the Publication Committee of the Society.

THIRTY-THIRD ANNUAL REPORT OF THE LADIES' UNION CHARITABLE SOCIETY, Conducting the LAWRENCE GENERAL HOSPITAL AND CHILDREN'S HOME, 1908. Lawrence, Mass., 1908. Paper. Pp. 72

THE AMERICAN TROPICS. By William Thomas Corlett. Half cloth, boards, top edge gilt. Pp. 221, with illustrations. Price $1.50. Cleveland: The Burrows Brothers Co., 1908.

New Patents

Recent patents of interest to physicians:

908388. Air-purifier. W. G. R. Braemer, Buffalo, N. Y.
907749. Massage machine. W. D. Davenport, Kaufman, Texas.
907784-5. Bandage. W. R. Green, Kansas City, Mo.
907839. Douche-chair. S. A. Mendenhall, Hamburg, Iowa.
907875. Sanitary receptacle. R. W. Pritchard, Portland, Ore.
908150. Device for production of medicinal baths. R. Schubardt, Berlin, Germany.
908171. Oxidizing camphol for making camphor. A. Verley, Paris, and E. Urbain Feige, Gentilly, France.
39732-3. Design, neck and chest protector. J. S. Mead, Milwaukee, Wis.
908959. Bandage support. C. M. Cooke, New York.
908845. Lift strap for recumbent patients. D. Curtin, Villanova, Pa.
909077. Truss. J. S. E. Freel, Newark, N. J.
908855. Massage apparatus. H. Ginnel, Garden City, N. Y.
908998. Truss. C. A. Jensen, Bailey, Nebr.
908573 and 909093. Nozzle for syringes, etc. H. A. Kaysan, Cassel, Germany.
909002. Respirator. N. Lambert, Rolla, N. D.
908881. Artificial hand. A. F. Nelson, Renton, Wash.
909020. Hospital cup. H. J. Potter, Boston.
909129. Attachment for crutches. J. W. Ricks, Gloversville, N. Y.
908533. Abdominal supporter and suspensory. P. Zuckriegel, Cleveland, Ohio.
909527. Composition for antiseptic and other purposes. H. S. Blackmore, Mount Vernon, N. Y.
909309. Apparatus for generating ozone. W. Kolle, Stuttgart, Germany.
909627. Therapeutic lamp. E. W. Locke, Chicago.
909435. Truss. E. Mayer and E. Strahlmann, San Diego, Cal.
909635. Sanitary comb. H. T. Moler, Pitcairn, Pa.
909224. Adjustable crutch. G. S. Rhodes, Fremont, Ohio.
909827. Crutch-tip. E. H. Seibert, St. Louis.
909823. Vibratory massage apparatus. E. N. Sipperley, South Norwalk, Conn.
909349. Catamenial bandage. J. A. Treber and B. Simon, Deadwood, S. D.
909859. Artificial leg. J. T. Apgar, New York.
910270. Sheet-metal disinfectant cabinet or holder. E. W. Carnes, Chicago.
910362. Remedial head-band. C. C. Dieudonne, Washington, D. C.
910004. Truss. W. Lennox, Philadelphia.
910303. Truss. R. R. McGregor, Covington, Tenn.
910144. Atomizer. F. E. Nelson, Los Angeles, Cal.
909948. Suspensory. E. A. Schmertz, Atlantic City.
910154. Poison indicator. J. B. Smith, Knoxville, Tenn.
910440. Distilling glycerin. F. J. Wood, New York.
909979. Respiratory apparatus. E. E. Zerkle, Chicago.
39777. Design, poison bottle. A. J. Iwan, Marshfield, Wis.